

**AN EARLY COUNSELLING INTERVENTION PROGRAM FOR PROBLEM DRINKERS
CONTRASTING GROUP AND INDIVIDUAL DELIVERY FORMATS**

by

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ABSTRACT

It is hypothesized that group treatment may be more effective than an individual treatment format. The purpose of this study was to address several deficiencies of previous research in contrasting group and individual treatment delivery formats and to assess the differential effectiveness of these two formats. The treatment area chosen was that of early problem drinker treatment as it was relatively easy to control treatment content across treatment formats since detailed content manuals and theory have been well developed in this area.

Subjects were selected from those respondents to a media advertisement who passed several screening criteria and were alternately assigned to a group or individual format. A lack of the requisite number of subjects required some specific design changes. Each treatment condition was given a structured eight-week treatment program of once per week meetings of seventy-five minutes each or a wait-list control condition. Statistical contrasts were then performed on the following variables: total drink units per week, maximum drink units per day, Profile of Mood States - a measure of current affective state, Weissman Social Adjustment Scale - a measure of social functioning level, and a general problem checklist. Data units were gathered

pre-treatment, weekly during treatment for drink units, at post-treatment follow-up, and at six months following the end of treatment. The other data were gathered pre-treatment, post-treatment, and at the six-month follow-up.

Results of the data manipulations indicated that the treatment intervention was associated with greater improvement on alcohol consumptions than a wait-list control group, but that group treatment was not associated with greater treatment gains than the individual format on any measures. These results are given to be tentative given several major limitations of this study which are discussed.

The research was found to be relevant in the area of treatment planning, and is interpreted as providing a more theoretically meaningful contrast of the two formats than previously achieved due to greater experimental control of possibly confounding variables. A useful initial test was performed of a treatment program developed for this study which shows promise for helping problem drinkers. It is also suggested that this research provides some important conclusions for the contrast of group and individual formats in psychological interventions generally. Future directions are suggested.

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CHAPTER 1

AN EARLY COUNSELLING INTERVENTION PROGRAM FOR PROBLEM DRINKERS CONTRASTING GROUP AND INDIVIDUAL DELIVERY FORMATS

The field of counseling psychology sets as its aim the promotion of health, well-being, and personal development so that each individual may reach his or her own potential (Erikson and Whitely, 1980; Ivey and Simek-Downing, 1980). A major impediment to a life of health, well-being and actualized potential is the interference of addictions, one of the most wide-spread and destructive of which involves overconsumption of alcohol. Since counseling psychology seeks to assist people in overcoming problems so that they may live more complete lives, it seems important that the field turn its attentions to the problem of overconsumption of alcohol. Many treatment designs and modes of delivery have been suggested to assist problem drinkers. However, the difficulty is that there are no

clear indications of which designs and modes will be the most effective.

The current study has been constructed to explore this problem more fully and investigates the comparative effectiveness of group and individual counseling treatments for problem drinkers. A definitive study in the area could have an impact on the design and delivery of future treatment formats.

Structured treatment programs based on cognitive behavioral principles have recently been developed and have proven to be successful in the areas of weight control, smoking cessation, and alcohol consumption reduction. Prior to the development of structured treatments, studies contrasting group and individual format were plagued by methodological problems, the most persistent of which was the inability to separate format and content. As a result, group and individual treatments in previous contrasts differed in both format and content, making it impossible to isolate format as a variable. The development of structured treatments has enabled the control of content.

Consequently, a return to the question of the comparative impact of group and individual formats becomes significant at this time.

Some current suggestions are that group and individual formats are equally effective. However, proponents of group methods (e.g. Yalom, 1975; Natali and Cvitkovic, 1977) would argue that group delivery adds unique and powerful features resulting in a greater and more enduring treatment impact. In addition, social psychologists (e.g. Asch, 1952) provide data which implies that a group format could be more impactful than an individual format.

Research to date on the comparative efficacy of group versus individual treatment presentation in the alcohol consumption reduction area is relevant but flawed.

Two hypotheses were investigated in the present study. The primary hypothesis examined in this study is that a group format is more effective than an individual format, showing greater change on the target

behavior of drink reduction. This hypothesis is based on a social learning model of group communication and treatment. A second hypothesis is that treatment utilizing a structured psychoeducational program is superior to no-treatment.

The hypotheses were tested using a structured treatment program for problem drinkers, the goal of which was to reduce the consumption of alcohol. The efficacy of the hypotheses were assessed by contrasting drink consumption figures between group, individual, and wait-list conditions as a major contrast, and other health related measures as a minor contrast.

CHAPTER 2

LITERATURE REVIEW

Severity of Drinking Problems

The epidemic nature of alcohol problems has been well documented. It has been estimated that seventy-five percent of adult Canadians consume alcohol, and that one in ten of these is a problem drinker whose over-involvement with drinking is causing on-going problems in his or her life. This estimate may be low by half given a recent study (Saxe et al., 1983).

Alcohol problems are a factor in 80% of all police arrests and are significantly involved in marital and family discord. Fifty percent of marital disruptions, domestic violence and incest, are related to continued alcohol abuse, as are one third of all cases of child abuse. (ADES, 1978).

Additionally, alcohol abuse is involved in a variety of other problems. Fully twenty-five percent of the children of alcoholics become alcoholic themselves (McKenna and Pickens, 1981). Calder and Kostyniuk (1989) found that children of alcoholics were overrepresented four times the expected amount in the clinical range of a child personality scale, although about half of the children of alcoholics had no clinical elevations. Elevations were particularly likely on a subscale of family relations, followed by delinquency, depression and withdrawal. This follows common clinical perceptions. In addition to these effects, the cost to industry is enormous, estimated in Canada to be 21 million dollars each day in lowered productivity, accidents, and sick leave (Canada, 1981). Alcohol and its related problems, excluding its involvement in heart disease (which is considerable), cancer and homicides, is the fourth leading cause of death (ADES, 1978). Between thirty and fifty percent of hospital admissions in the U.S. are attributable to alcoholism (Saxe et al., 1983). Saxe also noted that over half the alcohol consumption is carried out by less than ten percent of the drinking population. However, fully 85%

of all alcoholics (the approximately half of problem drinkers who are true alcohol addicts in that they suffer withdrawal when deprived of alcohol (Kissin, 1977)) never receive any treatment for alcoholism.

Cruz et al. (1977) have recently compiled a monumental analysis of the costs of alcohol problems and treatments. In their estimation of costs they considered the following factors: direct treatment, support such as research and education, lost productivity due to early death, impaired productivity, missed work time and failed employment, vehicle crashes and injuries, criminal costs, welfare costs, other costs such as fire, decreased indirect productivity time due to incarceration and vehicle crashes. They did not estimate family costs, or second generation alcohol and psychological problems, which are proposed to be significant and severe. The total costs estimated by Cruz et al. numbered 49 billion dollars in the U.S. in 1977. This surpassed the Berry et. al. (1977) figure of 40 billion dollars but is claimed to be low by Cruz et al., citing Schiffrin et al. (1975) who estimated the costs at 60 billion, partly due to an underestimation

in each category by Berry and partly due to family costs which Berry left out. Saxe et al. (1983) projects these figures into 1983 dollars to yield a cost of alcohol problems and treatment ranging from 72 billion to 120 billion per year. Thus it is clear that alcohol abuse is a major problem. Programs designed to help contain this problem thus become important fields of investigation.

Review of Drink Reduction Treatment Studies

A relatively large body of research exists on structured treatments designed to reduce alcohol consumption. Pattison, Sobell, and Sobell (1977) list seventeen studies with a controlled drinking goal and a further fifty-seven in which controlled drinking is an outcome. Miller and Hester (1980) report an additional ten bringing to twenty-seven the number of studies having controlled drinking as a goal.

Most of these studies refer to alcohol addicts who show a physical dependency on alcohol marked by withdrawal or abstinence syndrome when alcohol is no longer

available. Several researchers have concluded that a more favorable prognosis exists when problem drinking is less serious, less long lasting and involves lower general consumption (Baekland & Lundwall, 1975; Orford, 1973; Miller and Joyce, 1979; Vogler et al., 1977). Thus most recent studies have generally selected non-addicted problem drinkers for subjects. The following studies were completed using non-addicted problem drinkers (a similar sample also served as clients in the current study). Most recent studies did not utilize group treatment and thus these studies will only be reviewed where some aspect relates to the current study. A useful review of most of the studies in the area can be found in Heather & Robertson (1981). The relevant studies only are reported and discussed below.

The first study considered was conducted by Pomerleau et al. (1978) who contrasted "traditional" group therapy and behavioral group treatment. Subjects were middle-class on average, had stable marriages, jobs and good health. There were 46 referrals with an average age of 44 years and an average alcohol-related

problem duration of eight years. Seven subjects were diverted and referred for treatment elsewhere because of severity of psychological problems or depression, and a further seven declined to attend the first post-screening appointment. An objection might well be made to the procedure of rejecting subjects due to proneness to depression (4 subjects) since depression is endemic to the population of those who have problems with alcohol (Baekland, 1977).

The remaining 32 subjects, with a mean pre-screening consumption of 57 (Standard Drink Units) per week, were randomly assigned to groups of 6 or 7 subjects each in one of the two conditions. It should be noted that this consumption is among the highest in studies of problem drinkers. The groups met for 1.5 hours per week for 3 months with 5 additional booster sessions after completion of treatment.

While laudable efforts were made to keep the two treatment samples separate, the methodology also, unfortunately, included assigning the four therapists exclusively to one condition or the other. Thus,

therapist style or effectiveness is confounded with treatment methodology. Differential therapist effectiveness may have influenced the outcome, obscuring other differences.

The behavioral treatment group utilized several separate procedures, one of which was the depositing of a sum of money to be earned back at intervals for treatment attendance. This approach follows common behavior modification procedures as used in a variety of different interventions (eg. Tharp and Wetzel, 1969; Boudin, 1972; Leibson, 1972; DiRisi & Butz, 1975). Success of this technique within the general area of contingency contracting has been fairly well established with other presenting problems. However, Heather and Robertson (1981) criticize this study for the use of money in this fashion, since the traditional group treatment did not use money contingently. This use of money may well have influenced the results, however it is consistent with behavior treatment principles and thus seems to be an appropriate intervention and therefore the Heather and Robertson criticism seems unjustified.

Like the behavioral group treatment, the traditionally oriented group treatment also required payment, but this was done prior to each session and no refunds for compliance were given. The model was based on an insight-oriented approach emphasizing the development of intense group cohesion, confrontation of denial, and the motivation of the clients toward positive goals. Individual psychotherapy was provided as needed but not defined in the report, as to frequency, content, or differential effect.

While in completion and follow-up there were found to be no significant differences between the two treatment groups, the authors conclude that the behavioral treatment was the more successful. This conclusion is based on the significant consumption decrease between pre-test and post-test in the behavioral condition only as well as on the wide difference in drop-out rates.

Regarding the differential drop-out rate first, 43% of the traditional group members dropped out prior to post-test compared to 11% from the behavioral

condition. Pomerleau et al. (1978) attributed the drop-out rate difference to the greater intensity and confrontation of the traditional treatment, pointing out that all but one drop-out occurred at the 8th or 9th week of treatment, coinciding with "the culmination of intense interpersonal confrontations in therapy" (p. 198). An objection to using differential drop-out rate as a measure of treatment success is that, clearly, difficulties existed in the presentation of the traditional treatment which detracted from the validity of the entire contrast.

Secondly, the use made of change scores in this study seems suspect. Differences between treatments are based on pre-test differences which were then associated with different change scores between the conditions over the course of treatment to result in similar post-test scores. The objection made here is that the samples were initially different enough from each other that comparisons on treatment variables may well not be valid.

However, in spite of the above noted flaws, the post-test results provide evidence that a behavioral group treatment is equally as effective as a traditional group. Perhaps this is because many of the group process factors identified in traditional groups (Yalom, 1975) could also be expected to occur within the behavioral groups. Although this study is not comparative with regard to group versus individual formats, it supports the efficacy of group interventions generally for the treatment of problem drinkers.

A second study by Oie & Jackson (1983) reported an inpatient study using group formats with a sample of problem drinkers who were at the high but pre-addictive end of consumption and who were selected for low assertiveness. Although this study was not comparative of group versus individual formats it provides some useful suggestions regarding the general utility of group interventions.

The conditions compared in this study were: (1) social skills training, (2) cognitive restructuring, (3) a combination treatment, and (4) a minimum

treatment control group. All conditions significantly decreased consumption by post-test. However, the control/minimal treatment condition subjects soon reverted to the previous levels of consumption while the other condition subjects remained at a low consumption level. The combination treatment condition maintained low consumption even a year later. The authors concluded that cognitive changes in attitude, beliefs, and covert self-instructions brought about long-lasting and, in many cases, continuing improvement. In general, this study supports the idea that a group format may be a powerful change agent. However, a contrast of group and individual format awaits further research.

In a third study of particular relevance to the area, Murphy, Pagans, and Marlatt (1986) examined 60 heavy drinkers (45 drinks or more per month) who were randomly assigned to a schedule of exercise (running), meditation, or a no-treatment control group. Due to the impact of dropping out of treatment or dropping out during the six week follow-up, the final numbers at each of treatment completion and follow-up respectively

were: running (n = 13 and 9), meditation (n = 14 and 9), and no treatment control (n = 13 and 6). All groups significantly reduced alcohol consumption over the course of treatment and follow-up. The running group was found to have significantly lower consumption than the control group at completion of treatment, and the meditation group outcomes fell between the running and the control groups. At the six week follow-up the control group and meditation group consumption had increased almost to baseline while the running group increased only slightly. The significant treatment over time effect was found to be almost entirely due to the low consumption of those in the running condition. Meditation was much more effective for high compliers (5.3 times per week or more) than low compliers.

Group influence may have been a significant factor in change in this study. Murphy et al. (1986) suggest in their conclusion that the increased effectiveness of the running condition may have been due to any of the following: the individualized running plan, peer social support, or the presence of leaders who provided enthusiasm, feedback, and role-modeling. Low compliers

in meditation, who reduced alcohol consumption by 24% as compared to 60% reduction for high compliers, were found to attend group meditation sessions less regularly. Perhaps it was their low attendance which reduced those interpersonal influence effects which were present for the subjects attending the meditation condition.

In fact, the authors conjecture that group participation, social interaction or peer support may have been associated with the decreases in consumption and were more available to runners and to attendees of meditation groups, both of whom showed the greatest decrease in consumption. This study offers tentative support, therefore, for the additional therapeutic impact that may theoretically be achieved by use of a group presentation.

Thus, it appears, upon a review of relevant studies utilizing group format with non-addicted problem drinkers, that group format offers promise as an effective means of intervention. In fact, the Murphy et al. study (1986) lends some support to the

idea that some aspect of social interaction may make a group treatment more powerful.

Further review of studies which undertook a more direct contrast of social interaction format with formats lacking this component is required.

Contrasts of Group and Individual Treatment of Pre-Alcoholics

In this section an examination is made of several studies which directly contrasted group and individual formats. The directions that this research has pointed toward for future development and drawbacks of the research to date are discussed.

Theory and practice of group psychotherapy suggest that there are several unique factors that should add to treatment effectiveness when group methods are applied. Unfortunately, while group treatment is a common method of intervention with the more severe alcoholics, there is little in the way of research addressing the factors and impacts unique to a group

approach with this population. Pattison (1979) argues that the lack of description of components of the various group formats used with alcoholics makes contrasts between them or with other formats meaningless. He notes that, in the treatment of alcoholism, "...groups are widely preferred...yet there has been...little empirical evidence to support this choice" (p. 158). He states that "...controlled studies have provided no support for the popular belief that group methods represent a superior approach" (p. 57) and concludes that the wide mix of techniques used and the generally poor designs of studies in this area prevent drawing general implications.

Similarly, there has been little direct work comparing group and individual formats with non-addicted problem drinkers. Since alcohol addiction treatment draws its predominant historical influence from the confessional-support format of Alcoholics Anonymous, groups are a natural outgrowth of this format. In contrast, problem drinker treatment has been heavily dominated by behavioral/social learning theories of practice and formats of treatment. Historically,

individual approaches have been the norm here. On those few occasions when a group format has been utilized, the added component of group membership has not been specifically assessed. Thus the question remains: what, if anything would a group approach uniquely offer to the treatment of problem drinkers?

Research in controlled drinking treatment contrasting group and individual formats has been sparse. There are, in fact, only two research studies that directly address the efficacy of a group treatment format for problem drinkers in controlled drinking programs. Both of these appear flawed.

Miller, Pechacek, & Hamburg (1981) conducted a study using a group presentation with the Miller & Munoz manual (1982) for behavior self-control treatment. One stated purpose of developing a group format was "...because of potential benefits accruing from interactions among clients sharing this problem" (p. 830). Thus, he sets out to specifically enhance treatment by adding the unique features of a group format. Unfortunately, the research design was not

capable of reflecting any added impact of a group format.

In this study the subject pool of 28 (18 males) was recruited through media; collateral verification was available for 22; mean intake consumption was 43 drink units per week. Subjects, on average, had experienced alcohol related life problems for 8.6 years, and had an average Michigan Alcoholism Screening Test (MAST) score of 15.5.

The subjects were assigned to one of four identical classes, each with a maximum client size of ten plus significant others if they wished to attend. The course lasted ten weeks of 1.5 hour sessions with one session at the mid-point assigned for individual consultation. The class otherwise followed the presentation of material in the Miller & Munoz book with the first five weeks dedicated to drinking control by means of goal setting, drinking rate control, self-reinforcement, stimulus control, and functional analysis of drinking. The latter four weeks offered behavioral

alternatives: deep muscle relaxation, assertiveness and communication skills, and a final assessment.

This study does not present group process in the traditional sense described by Yalom (1975) but rather places considerable restrictions on the emergence of group process. Miller et al. (1981), however, clearly intended that group impact would be able to emerge in this format. Miller describes the program as "...educationally oriented group therapy" (p. 837) but it appears from the description that it was more similar to an alcohol education program in which there was only restricted opportunity for group interaction.

Clients completing the program showed significant changes over treatment and through to three month follow-up in weekly consumption of alcohol. Consumption at completion and follow-up decreased to approximately 25 drink units per week (one drink unit is equal to one four ounce glass of wine). Peak B.A.L. (Blood Alcohol Level) per week, average B.A.L., and number of heavy drinking days (5 drink units or more) likewise decreased.

In his conclusion Miller states: "No direct comparison of group versus individual behavior self-control training has been reported to date, however, and conclusions regarding relative efficacy must await further research" (p. 857).

Since no control group of a no-treatment condition or an individual format treatment was utilized in this study, no conclusions on the comparative impacts of these formats can be made.

In the second relevant study Miller & Taylor (1980) contrasted four conditions: a manual-only minimal contact condition, behavior self-control training, behavior self-control training plus relaxation training, and a group format behavior self-control training plus relaxation. The treatment was again derived from the Miller & Munoz (1982) manual. The group condition in this study was the same classroom format used in the previous study.

Subjects were randomly assigned to the first three conditions and the final twelve assigned non-randomly

to the group condition. An objection to the non-random assignment in the group condition is that the subjects of this condition may thus not be comparable. There were 41 subjects (25 male) treated, average age 45.4 years, with a problem duration ("...life problems related to alcohol") of 10.1 years, a mean MAST of 18.5, and a mean weekly intake consumption of 54.4 drink units. This is a more serious consumption pattern than that in many of the other problem drinking research programs reviewed.

Condition one involved reading and working through the manual with very little therapist contact. Condition two involved working through the manual with a therapist. Condition three was similar to condition two with the addition of relaxation training. Condition four was the group condition which involved working through the manual with a therapist and then receiving relaxation training.

The purpose of this study was to carry out an investigation of the effects of various treatment delivery formats. Miller did not address the query he

put forward in his previous study regarding ("potential benefits accruing from interactions among clients sharing this problem" (p. 830) (Miller et al., 1981). Results indicated that consumption reduced significantly across treatment with no significant differences between treatments. All groups also showed significant changes on locus of control and a mood measure (Profile of Mood States), and 73% reported improvement in life problems while 19% reported deterioration.

Thus it appears that there was significant and long-lasting impact on drinking. However it is also noted that group and individual formats were equally effective.

Several criticisms of this study are noted and will be reviewed below. Condition three consisted of ten 50 minute sessions while condition four consisted of ten 90 minute sessions. Thus an objection is that treatment format is confounded with treatment session duration. A second criticism is that therapists for the first three conditions were paraprofessional trainees in psychology at the undergraduate or graduate

level, and were distributed across clients in each of the three conditions. The condition four therapists were more highly trained - in fact the two authors themselves, both university faculty. Another objection emerges from this in that skill and style levels of therapists are confounded with format.

A third criticism refers to the fact that subjects were not randomly assigned to the group condition while they were randomly assigned to the other three conditions. Thus a systematic bias may have been introduced to the data by the methods of treatment assignment. With regard to this criticism it needs to be pointed out that, while consumption in the various treatment conditions at completion and up to one year follow-up were approximately equivalent at about 16 and 22 drink units respectively, mean consumptions of the treatment conditions at intake differed considerably from each other. Consumption of the bibliotherapy group appeared to be highest at intake, the two individual self-control conditions were in the middle, and the group condition was lowest at what appears from graphs presented to be 75, 50, and 30 drink units each.

Because of this wide initial difference, comparisons between these conditions are less meaningful. They appear to be samples from different populations.

Fourthly, there was a persistent problem of drop-out of subjects with the numbers reporting at intake, completion, and three month follow-up declining from 41 to 35 to 21. This drop-out rate severely reduces the utility of the data. At follow-up, data is missing on 49% of the subjects.

Fifthly, the subjects of this study as a whole, represented greater seriousness of problem drinking than is common for this area of research, some appearing clearly to be in the physically addictive range of alcoholism. Previous research has indicated that such subjects would be less responsive to controlled drinking treatment (Baeklund, 1977; Orford, 1973; Vogler et al., 1977; Miller & Joyce, 1979; Polich et al., 1980; Orford & Keddle, 1986).

Despite these criticisms the study has considerable value to the current research. A non-significant

trend emerged in which the group condition showed the highest improvement rates across treatment and follow-up (Miller & Taylor, 1980). The authors state: "individual improvement ratings and drinker classifications appear to modestly favor group 4 (the group condition)" (p.22). This trend hints that an advantage may be found in group formats with a well-designed study.

In summary, it seems clear that the appropriateness of a group format in treatment of problem drinkers has not been adequately tested. It is not known whether a well developed group approach would be better than an individual format, equivalent to individual treatment, or whether it would be worse than an individual format.

Summary and Conclusions from the Literature on Groups For Problem Drinkers

Several studies were reviewed which utilized group format in the treatment of early stage problem

drinkers. Studies using groups were in the minority of studies on treatment of early problem drinkers reported to date. Those which have used a group format, however, certainly supported the effectiveness of group interventions.

Concerning the central purposes of the current study, the one experiment which has contrasted group and individual formats found them to be approximately equally effective, yet the contrasts were flawed in several important respects. The Miller & Taylor (1980) study did not utilize random assignment for the group condition, the treatment conditions differed significantly from one another on alcohol consumption in pretest, follow-up data is missing on approximately half of the initial subjects, the therapists were at different skill levels in the group condition versus the other conditions, and the individual treatment consisted of 8.3 treatment hours while the group condition was 15 hours in length.

Minimally, a replication of the Miller & Taylor (1980) study seems in order, as a result of these

flaws. A different population would be required in which pre-treatment consumption is similar across conditions. Even more useful would be an extension of the study which ensured satisfaction of the following conditions: first that assignment of subjects to conditions is random, second that the same therapists are used in all treatments, third that treatment length is equivalent across conditions, and fourth and most important that a group format with increased opportunity for member interaction be facilitated.

Areas of Health Requiring Assessment in Interventions With Problem Drinkers

An area of concern in research of alcohol abuse relates to the tendency to focus on alcohol consumption alone. Pattison (1979) recommends strongly that five separate areas of health be considered in the treatment of those with alcohol problems. These are: drinking health, emotional health, interpersonal health, vocational health, and physical health. Only one of these is directly concerned with alcohol consumption. The main thrust of Pattison's recommendation is that truly

beneficial treatment will impact positively on many areas of perceived maladjustment in addition to drinking. Gerard et al. (1962) found that this was not always the case. In their study they followed a group who had been successfully abstinent for at least one year. Using interview and psychological tests they found 10% of this sample to be fully functioning successes. A further 23% they termed "A.A. successes" and noted that these had little or no social life outside Alcoholics Anonymous. The authors found another 25% to be conspicuously inadequate; leading extremely "meager lives". A distressing 54% were diagnosed as overtly disturbed.

Gerard & Saenger (1966) followed this study with research that estimated that between 12% and 32% of those whose drinking improved functioned poorly, and some functioned even worse than prior to drinking improvement on several other areas of health.

Miller, Hedrick, & Taylor (1983) carried out a follow-up of two controlled drinking studies with early problem drinkers. Eighty-two treated clients and

eleven drop-outs were assessed on a range of life problems before and after treatment. The program primarily focused on alcohol consumption management, although it also included two subgroups whose treatment had dealt with other life problems in addition. Subjects were assessed at three to six months, twelve months, and twenty-four months post-treatment. Those who completed treatment reported improvement on 75% of assessed life problems after treatment, a level maintained over the next two years. Follow-up attritions were excluded and not classified as deteriorated. There was no difference found in life problem improvement between alcohol-focused treatment subjects and those who had experienced a broader treatment approach. A notable exception was that those subjects whose additional treatment modules were individualized to their own unique treatment needs appeared to show even greater improvement.

In summary, the above studies indicate the importance of offering treatment and assessing progress in all areas of health, not just in alcohol consumption. Thus it seems to be very important in evaluating the

efficacy of an alcohol treatment program to ensure that these other areas of life or health problem be assessed for treatment impact.

Added Impact of the Group Treatment Format:

Social Psychological Research

General Theoretical Studies

Research in social psychology has had considerable impact on clinical and counseling psychology practice (Strong, 1978; Dorn, 1984). Harari (1983), reflecting on the importance of social psychological research for therapeutic interventions, has called for specific applied social psychological research on clinical practice. While this has been essentially lacking to date, it is relevant toward that end to review areas of social psychological research that may have implications, through theory and empirical outcome, to the current research questions.

Accordingly, it is helpful to review the literature in social psychology for studies and theoretical discussions that would suggest a differential impact of

treatments delivered in a group versus an individual format.

The following section has been divided into two parts. The first discusses theory which supports the hypothesis that the presence of others has a specific and unique influence on perception and decision making. The major findings of Asch, Festinger, and Wallach and Kogan and their colleagues are considered relevant to the current study and are discussed below. The authors study the impact of group interactions on individual behavior. They indicate in some detail how individuals may be systematically influenced in selected directions by peer interaction. The second section discusses some of the specific applied social psychology research regarding the impact of social influence on substance abuse.

Models of Group Influence

Asch (1952) reports a series of studies related to the impact of peers on perceptions. Recalling an earlier study by Moore in 1921, Asch notes that he was

intrigued by Moore's findings that the opinion of others dramatically affected subjective judgments in relation to grammar, ethics, and music. Individuals were first asked to make judgments in these areas. The subjects were then told that the majority of people had previously chosen the opposite response. The subjects were then re-tested on the same task. A large shift to the opposite judgment was found on the retest. It appeared evident that judgments were indeed affected by peers.

Asch also reported an experiment by Sherif in 1935 in which individuals made judgments about the relative apparent movement of a point of light, a common autokinetic optical illusion which is entirely subjective. When subjects are asked to make judgment in the presence of others, Sherif noted that their judgments successively approximated each other over time. Asch reported that Sperling, in a 1946 unpublished replication and extension of Sherif's experiment, placed pairs of subjects together, one of whom was instructed to act as a confederate of the experimenter. Sperling found that the judgments of the naive subject were indeed

affected by the confederate, and shifted somewhat in that direction but not as far as those of the confederate. However, Sperling noted that this effect was temporary. Most naive subjects began denigrating the confederate's judgment and they abandoned their tendency toward exaggeration. Asch criticized Moore's, Sperling's and Sherif's studies for utilizing a situation in which objectivity of judgment was difficult, thus hampering the clarity of the peer influence effect.

Asch resolved this difficulty by selecting a non-subjective task involving judgment of line lengths in which subjects were asked to choose a line equal in length to a given standard from three alternatives, one of which was fairly apparently the correct answer. He constructed groups of seven to nine confederates and one naive subject since "...smaller groups, (he) feared, would lack the requisite 'group volume'" (P. 455, Asch, 1952). The naive subject presented his public judgment after most of the confederates. During the initial trials, the confederates presented accurate public judgments in agreement with the public

judgment of the naive subject. On further trials they presented consistent and inaccurate judgments on several critical trials. Naive subjects responded by exhibiting many shifts toward agreement with the majority inaccurate judgment.

Upon debriefing, subjects (even those who made few shifts toward the majority) revealed that they experienced severe discomfort upon realizing that their judgments ran contrary to those of the majority and that they were unable to avoid publicly proclaiming a judgment. They began to doubt their own perceptions, and were motivated to avoid appearing different, odd, or not a member of the group. Asch suggests that their previous comfort in being a consistent member of a group was threatened and hence the naive members worked to reduce their growing alienation and perception of themselves as "...inferior...", "...different...", or "...outcast..." (P. 465 Asch, 1952).

Asch then presented some variations on the original experiment. In the first extension he increased the magnitude of the inaccuracy of the majority

judgment. There was a slight increase in the number of individuals who remained independent in their public judgments but the trend of shifts in judgments toward agreement with the majority did not decrease. This result runs contrary to the finding of decreased shifts with greater magnitude reported by Sherif.

In a second extension Asch reduced the size of the group to one naive subject and one confederate. The influence of this manipulation was to almost totally eradicate the impact of confederate's judgments on those of the naive subject. In debriefing, although naive subjects reported that they experienced some disturbance at the discrepancy, they rarely shifted in their public judgments. This is similar to the results reported by Sperling.

A third variation was to introduce a confederate in the seven to nine member groups who would persist in giving accurate judgments, in contrast to the other confederates inaccurate judgments. In this condition the shift of the naive subjects was reduced by half.

In a fourth manipulation, one inaccurate confederate was included in a group of naive subjects. While this resulted in no shifts of judgments in the naive subjects, it did result in considerable derision, laughter, and open contempt toward the confederate. This seems, in fact, to exemplify precisely the situation which the one naive subject would have anticipated with fear in the original experiment and which likely motivated his judgment changes.

A fifth manipulation utilized equal sized subgroup of naive subjects and confederates and resulted in no shift in judgments and few instances of derision. It appears that the naive subjects found sufficient peer support to maintain their initial stance.

In further investigation of the Asch paradigm Moscovici and Personnaz (1980) found that, contrary to expectation, a minority influence when consistent over several trials, could also affect decisions. The authors suggested that although majority influence motivated compliance by engaging a need to appear

consistent with apparently valid peers, in public, this influence was limited to the public sphere. However, the influence of a consistent minority, while having little impact on public response, appeared to result in a significant shift of internally held perceptions and beliefs, which could then be detected as acted out in the private sphere.

After contradictory results were found by two other research teams Personnaz (1981) replicated the original Moscovici & Personnaz (1980) study and found, consistent with original results, that perceptual modification was associated with the minority condition but not the majority condition, whereas compliance was associated with the majority condition but not the minority condition.

Mugny (1984), in a partial replication of the above study, found direct and indirect influence in both the majority and the minority condition if subjects believed that they were taking part in an experiment to study illusions. Presumably this belief permitted less rigidity or absoluteness in their

responses. While this recalls the criticism offered by Asch to the Moore, Sherif and Sperling studies in that the task becomes more subjective, it is valuable to note that both majority and minority influences clearly effect judgment.

This series of experiments is important in reference to the current study in that it emphasizes the impact of a group of peers on an individual's behavior. It is consistent with the results of the above studies to extrapolate that, in a group in which members share objective data regarding the impact of treatment on their drinking behavior, it is more likely that, over consecutive public statements, the members will successively approximate each other's performance in the direction of pre-set goals.

Other social psychologists have studied changes in attitudes, beliefs and values, in the context of peer influence. Festinger (Festinger & Carlsmith, 1959) carried out a series of studies in which individuals were asked to publicly express an attitude contrary to a previously held attitude for either a large or small

monetary reward. Those who stated the contrary attitude for a small reward, if the statement cost them considerable personal effort, tended thereafter to embrace the contrary attitude rather than their previous one. On the other hand, those who stated a contrary attitude for a large reward tended afterward to reject this attitude in favor of their previously held position. Festinger conjectured that the subjects who received the larger amount of money could state a contrary attitude without discomfort by rationalizing that the reward was large enough to legitimize stating a false attitude, and that they did not then or subsequently believe the stated attitude. Those who stated the false attitude for only slight reward could not refer to the amount of the reinforcement to legitimize their behavior and were found later to utter attitudes consistent with the publicly stated attitude rather than their previously held attitude. These individuals had resolved the felt dissonance of their stated position versus his previously held position by altering their previously held attitude to be consistent with their public behavior. This result has been replicated across many situations.

Rokeach (1971) found that dramatic attitudinal change could be achieved merely by pointing out attitude inconsistencies in a compelling fashion, such that the individual was forced first, to acknowledge an inconsistency between attitudes, second, to attribute a discomfort to this awareness, and third, to choose to endorse one of the attitudes publicly, typically by making a commitment to carry out some action.

Bem (1967) offered a somewhat different but parallel interpretation of Festinger's cognitive dissonance results with his self-perception theory. The central tenet of this theoretical position is that an individual is an observer of his/her own behavior and learns about his/her attitudes and attributes in much the same way as an external observer - that is, he/she observes his/her external behavior rather than intrapsychic events. Bem suggests therefore that the individual who has publicly stated an opinion which is contrary to a previously held but less public opinion and does not have a rationalizing justification such as sufficient reward, will subsequently observe his/her

recent behavior and conclude that he/she genuinely believes the newly stated position.

It is possible to conclude from the work of Festinger, Rokeach, Bem and their colleagues, that an individual tends to be profoundly affected by public examples of his/her attitudes and beliefs. An extrapolation consistent with these areas of research is that an individual who reports a behavior without a legitimizing variable such as a sufficient reward will tend, thereafter, to accept this position and to present himself/herself in a manner consistent with these statements. A further extrapolation relevant to the present study is that individuals in a group who express attitudes and beliefs in support of a group held goal, yet inconsistent with their previous position, will thereafter be more strongly and consistently committed to those stated positions as a result of having expressed them in the public arena of the group.

In another relevant area of social-psychological research, it was found that groups moved consistently toward more unanimous and risky decisions following

group discussions. Subjects in these studies were seated around a table and were presented with twelve dilemmas previously developed by Wallach and Kogan (1964, 1965). After presentation of each dilemma the subjects were asked to publicly estimate the risk level at which they would be willing to make a decision in agreement with a considered course of action. A discussion ensued and, following this, the subjects were again asked to make a risk level estimation. This second risk recommendation showed a significant tendency to be more risk-oriented than the original decisions.

Factors suggested to account for this effect include the following: a generalized social value on risk-taking (Rabow et al., 1966), familiarization with the dilemma presented, diffusion of responsibility among group members, increased level of information arising from the discussions (Vinokur, 1971), increase of personal involvement in the dilemmas by virtue of the discussions, enhancement of the expected value of payoffs, or reduction of individual uncertainty as a function of group discussion (Dion, 1970).

Willems & Clark (1969) found that under the standard instructions used in previous research there was a highly significant shift to risk ($P < .002$) that is, when open discussion between group members was permitted. However, where open discussion was not permitted but members exchanged information on their risk recommendations by means of holding up numbered cards they found a less significant shift ($P < .01$). They also found a non-significant shift to risk where no discussion or information exchange was permitted but members listened to an audio tape of a discussion group. Finally there was a low and non-significant shift to risk in a control group where only a second risk-estimate was asked for. Thus where less group interaction was possible, less group shift in the expected direction was found to occur.

Research in the area of the risk-shift appears to indicate that the active variable of group significantly impacts on an individual member's judgments. This effect appears to vary positively with degree of discussion allowed (Willems & Clark, 1969) and with

group size (from 3 members to 4 & 5 members) (Teger & Pruitt, 1967).

The repeated empirical finding of a shift to a risk as a function of group membership and decision making is relevant to the current study. In accord with the research findings cited above the inference is that group membership influences behavior, in this case decision-making. It can be extrapolated that members of a group who are experimenting with controlling their consumption of alcohol will express more and more risky drink reduction goals (risky as being different from their initial consumption) as the task of goal-setting repeats over the life span of the group.

Models Proposed by Social Psychology to Understand Group Influence

Social psychological theorists have developed some hypotheses to account for the evident influence of a group on an individual's attitudes and behavior. Zajonc's (1965) drive theory (cited in Zajonc, 1980) is

based loosely on the mathematical drive prediction model of Hull-Spence. This theory predicts that the "'mere' presence" (Zajonc, 1980) of another will tend to increase arousal, and this in turn will facilitate performance of well-learned and simple (dominant) tasks, but will hamper performance of poorly-learned and complex (non-dominant) tasks.

Several adjustments (described by Glaser, 1982; Guerin & Innes, 1982; Paulus, 1983; Lake & Arkin, 1985; Shaw, 1985) have been proposed to this model. Cottrell (1972, cited in Paulus 1983) adapted this model to include his concept of a learned social drive. The learned social drive was proposed to be a drive originating in the social history of the individual and related to the anticipation of positive or negative evaluation (primarily negative).

The distraction theory proposed by Baron (Baron, Moore & Saunders 1978, cited in Paulus, 1983) suggested that drive was aroused and the differential impact was found on dominant versus non-dominant tasks due to the distraction effects of an audience. Baron contends

that the presence of others is distracting either because it increases uncertainty regarding appropriate responses and likely outcomes, or because it increases evaluation apprehension, or because it induces a tendency toward social comparison and self-evaluation from an external perspective. This latter factor is reminiscent of Bem's self-appraisal hypothesis.

Duval and Wicklund (1972, cited in Paulus, 1983) suggested that the presence of others functions as an impetus to reflect on one's performance as if outside oneself and to become aware of the discrepancies between the performance of the real self and the performance goals of the subject's ideal self. This awareness increases motivation to more closely approximate the ideal self.

Carver & Scheir (1981, cited in Paulus, 1983) proposed a cybernetic model utilizing a feedback loop of the Test-Operate-Test-Exit or TOTE variety. In the presence of others they propose that an individual scans for discrepancies more frequently and thus has more immediate volitional control of his behavior.

Turner (1985) (Turner & Oakes, 1986) proposed a model which emphasizes the social identity of the individual. Turner proposes that social identity is a self-concept which includes being part of a social group, as understanding oneself as more similar to members of that social group than to others, and as understanding other members of the group as being similar to the ideal self. Social influence, in this model, is a function of the need to experience consensus with persons perceived as similar to oneself.

Another model of groups proposed was Latane's (1981, cited in Tanford & Penrod, 1984) social impact model. According to this model, the impact of a majority or minority influence is a function of the strength (that is, the status or resources of the influence source), the immediacy (that is, the proximity of the influence source to the target), and the ratio of the influencers to the number of people influenced.

The above theories, while they all have both support and problems in the empirical literature,

indicate that, at the very least, some aspects of 'groupness' has consistently been proposed to be linked to systematic shifts in behavior.

Zimbardo, Ebbesen, and Maslach (1977) summarize the impact of group membership on attitude and behavior change utilizing many of the results of Zimbardo's previous research. Relevant among these are:

- 1) attitudes are influenced by group norms and goals of the group to which one belongs;
- 2) conforming to these group norms in rewarded, not conforming is punished by the group;
- 3) group influence is more effective when the group meets social and emotional needs;
- 4) groups may influence by diffusion of responsibility, imitation, anonymity, and behavioral contagion. (Imitation is the effect of modeling and whole or part repetition of this behavior by another, which appears to increase the likelihood of future repetitions of the behavior by the other. Behavioral contagion refers to being influenced to partake in similar behavior,

attitudes, and emotions as others based on the proximity and perceived emotional closeness to the others);

- 5) attitudes that are publicly expressed are more resistant to change than those not so expressed;
- 6) discussion participation increases vulnerability to attitude change.

In relation to the current study it can be extrapolated that group members may publicly express group norms and goals consistent with the program goal under discussion. Group members may be seen as mutually supportive peers who model their behavior on each other and who demonstrate an increasing mutual commitment to the stated goals. These factors may be proposed to facilitate change in attitude and behavior in the direction of successful accomplishment of alcohol reduction.

Applied Social Psychology and Group Influence

Applied social psychology has also made some relevant contributions to the current study. Several

researchers have tested the impact of group membership on behavior such as substance abuse and its control. A selection of these studies is reviewed below.

Collins, Parks, & Marlatt (1985) studied several aspects of social influence models. The most important of their findings was that modeling occurred more consistently where the confederate made efforts to be sociable. Thus imitation of the drinking consumption and pacing of another appeared most likely when the other was presented as affable and friendly.

Related to this finding, Bixenstine & Abascal (1985) carried out a group assertiveness intervention with three-person groups, each containing one confederate who modeled success/failure and warmth/coldness in a 2X2 design. The authors found that both success modeling and warmth modeling were related to reported gains in assertiveness and that the confederate was perceived as warm in both cases. Thus success in others is attractive and may stimulate emulation.

Etringer et al. (1984) manipulated social cohesion in a smoking cessation treatment and found a significantly higher success rate associated with the higher cohesion condition. While this offers tentative support to the effect of group cohesion on treatment impact, this study suffered from pre-test differences in one of the conditions which inflated the apparent effect of this variable.

Clarke et al. (1985) studied changes in alcohol use patterns during the first year of medical school. They found that while alcohol use dropped somewhat among males and remained the same among females, the beliefs of all the students about appropriate consumption converged considerably over the course of the year. The authors propose that an initial collection of students each with his or her own diverse reference groups coalesced into a powerful group with influence on its members.

Eiser & Van Der Pligt (1984) surveyed adolescent smokers in an effort to explore the origins of smoking habits. As an outcome of their study the authors

rejected the hypothesis of peer pressure and proposed a hypothesis based on group formation. They suggested that a choice to join a group is based, in part, on perceived similarities between the individual and the group. This will be followed by a growing consensus of beliefs within the group and perceived dissimilarity to other groups. One group value may be to smoke and, in fact, the authors note that the leaders of smoking groups are likely to be smokers. However smoking behavior in group members, they contend, is not the effect of modeling by the leaders but rather of shared values in the group as a whole.

In an expansion of this study Eiser (1985) develops a social influence model. He suggests that social identity factors with reference to the primary social group are as follows: the social group contains the standards for self-evaluation, it contains the major sources of information regarding choices of activities and considered behavior, and it is the major source of expectancies regarding behavior such as smoking.

Solomon and Harford (1984) surveyed a population in order to compare drinking norms with actual drinking behavior. They found that the norms and drinking behavior tended to be determined by the context rather than by some pre-set patterns of consumption. Thus social influence is more important than past behavior.

It appears from the above applied social psychological literature that the findings of the laboratory in social psychology are replicated in the field. Social influence is clearly a key variable in the determination of behavior.

It has been found that groups influence members to change in various and dramatic ways. As a consequence, if all other factors were held constant - a group presentation, containing as it does these social influences, would be expected to have a decidedly stronger impact than individual treatment.

Group Versus Individual Formats
In General Counseling Treatment

In this section the general outcomes of previous clinical and counseling research contrasting group and individual treatment formats are presented along with the major methodological problems encountered.

It appears from a general review of the clinical and counseling literature that, contrary to the expectation drawn from the literature in social psychology, there has emerged no outstanding advantage to group over individual format. In fact, in two major reviews by Orlinsky & Howard (1978) and Luborsky et al. (1975), sixty-eight percent of the total of 31 studies cited found no significant difference in outcome between the two formats. Of the remaining thirty-two percent of studies which found a significant difference, results were split about equally between those favoring group and individual format. Other studies reviewed separately (Aughenbaugh, 1968; Scissons & Njaa, 1973; Rockwell, 1976; Kingsley & Wilson, 1977;

Brownell, 1978; and Linehan, 1979) revealed the same results: four of the six finding no significant difference and one each favoring group and individual.

However, severe and persistent methodological problems have occurred in studies in this area. An example of some of these problems can be presented in the Rockwell study (1976), the one of six separately reviewed studies which suggests that an individual format has greater treatment impact. First, in Rockwell's study clients were not randomly assigned to treatment. Second, the treatment modality was not described other than as "... best characterized as eclectic psychotherapy" (p. 188), indicating the lack of a coherent or consistent treatment model. Third, the sample is quite unique in consisting largely of clients who were suffering from reactive distress which may well have been self-limiting in any case.

As noted above, the results of studies contrasting group and individual treatments are rendered suspect by persistent methodological problems encountered, which leave the results of the studies surveyed less than

conclusive and, most often, confusing. Bloch et al. (1981), Klein (1983), Orlinsky & Howard (1978) and Pattison (1979), blame design problems, inadequate measures, fad research, and the inconsistency of definitions across research as major problems. Further, it may be argued that inconsistencies across formats leading to the confounding of treatment format and treatment content is endemic to the research area. Bednar and Kaul (1978) cite several severe examples of this problem in which contrasts might be, for instance, between a transactional-analysis content in a group treatment format, and behavior modification content in an individual format. A notable exception considered above, the Miller and Taylor (1980) study, is seriously flawed in other respects.

As a result of these kinds of problems of methodology, no definitive conclusions about the comparative impacts of group and individual treatments may be derived from the literature to date. However, at the theoretical level there is reason to propose that a group format may be more effective overall in bringing about change such as lowered consumption in problem

drinkers. Following is a discussion of the therapeutic factors that have been proposed to account for the impact of group and individual treatments respectively.

Therapeutic Factors and Group Treatment

Kovel (1976) in his popular review of therapies offered the following contrast of group and individual treatments:

"Group therapy...offers both a readier access to interpersonal neurotic patterns and a different vantage on those patterns: we get to see ourselves as others see us. The group is more dramatic, more filled with intense feeling, action and risk taking, thus it is likely to produce behavior change more rapidly." (p.180)

Ohlsen (1977) proposes that groups are more advantageous than individual counseling in that they focus attention on the present group context rather than on prior history or external situations, thus providing more opportunity for feedback on members' patterns of interactions. Dinkmeyer and Munro (1971) suggest that this feedback can lead to trying out new forms of behavior in the group. Other reasons pointed out by these authors for preferring a group context are that members learn by observing others and are

encouraged that others have similar problems, that groups provide an opportunity for learning effective values, and that groups provide an opportunity to meet a basic need for belonging by giving and receiving affection with other group members.

As noted in the previous section, social psychology research suggests that some additional and unique impact of groups may be expected that would enhance treatment impact beyond that available in individual treatment. The 'mere presence' of others appears to have a large influence on perception and behavior. This would be expected to be an active component in group treatment. In addition to the social psychology research, some important therapeutic aspects of group intervention have been described in the clinical and counseling literature on groups.

For Schutz (in Dimock, 1970) the major therapeutic influence is to be found in the development of the group itself. The group progresses through the following successive stages: initially members seek to become part of the group and to define their position

in it. Next ensues a struggle for control. Then a stage of sharing of responsibility and cohesion follows. Finally, intimacy and individuality emerge, leading to a deeper and more open sharing and productive problem-solving. Schutz understood these stages as being highly involving to all group members and as being powerful ingredients in treatment. His work clearly suggests that, where a group is the treatment format, these stages will inevitably occur in a powerful and engrossing way.

Similar to Schutz, Gibb (1964) proposes four basic stages in group development identified as acceptance or trust formation, data flow or the open expression of thoughts and feelings, goal formation, and social control. Perhaps the most basic of these is the stage of trust formation in which the individual group members learn to accept themselves and others, to establish membership in the group, and to increase self-confidence. By developing high levels of trust, members reduce anxiety, thus becoming more able to process information and engage in interactions which facilitate insight. Gibb's work suggests that where a

group exists and is able to work through these stages, particularly trust formation, change will occur.

Baekeland (1977) indicates that a group format adds to therapeutic interventions in the following ways: it provides a family warmth and cohesion, it helps members prepare for the future by experimenting with relating, and it enables members to experience giving as well as receiving in their interactions.

Yalom (1975) suggests that the following therapeutic factors create treatment impact in groups: altruism or helping others, group cohesiveness or being part of a group, universality or realizing that others also share one's problems, interpersonal learning (input) or learning how one is experienced by others, interpersonal learning (output) or changing the way one relates to others, guidance or accepting advice, catharsis or powerful emotional expression, identification or learning to be like others one admires, family reenactment or recapitulating problems in the family of origin within the group setting, self-understanding, instillation of hope, and an existential factor in

which one learns that one is essentially alone and responsible for oneself.

Group psychotherapy according to Hill (1975) offers the following unique treatment opportunities: ventilation of affect, acceptance by other group members, learning by watching others who are addressing similar problems to one's own, and the ability to abstract and reflect on one's issues.

Similarly, Leiberian (1980) proposes five factors inherent in the group process. In a group, cohesiveness develops among members and is experienced as acceptance and support. Pressure is exerted by the group for members' behaviors to conform to mutually accepted norms. The group serves as an alternative social environment, redefining values for its members. The group allows both the expression and control of affect as appropriate. Finally, the group provides a context for the social comparison of oneself to others.

Bloch et al. (1981) offer eleven major therapeutic factors available in groups. These factors are derived

from Corsini & Rosenberg (1955) as are Yalom's. They include: self-disclosure, interaction, acceptance or cohesiveness, insight (especially into relationships with others), catharsis, guidance, universality, altruism, vicarious learning, the instillation of hope, and an existential factor.

Long & Cope (1980) assess curative factors utilizing Yalom's (1975) 12 factor Q-Sort technique on an incarcerated offender population treated with group therapy for an average of seven months and a minimum of one month. The resulting rank ordering of Yalom's factors appears as: (1) catharsis, (2) cohesiveness, (3) interpersonal learning (input), (4) interpersonal learning (output), (5) self-understanding, (6) existential factor, (7) altruism, (8) instillation of hope, (9) guidance, (10) family reenactment, (11) universality, (12) identification. This ranking is significantly correlated to that reported by Yalom in 1975.

Butler & Fuhriman (1983) review research studies of therapeutic factors in groups as these were rated by participants. Most studies used the Yalom (1975)

questionnaire and the Yalom twelve factor model. Clients were involved in inpatient, outpatient and personal growth groups. The most salient factors among the seven studies reviewed by the authors proved to be self-understanding, catharsis, and interpersonal learning (input). There is, however, some difference between groups in ranking of these factors - inpatient groups ranking cohesiveness first while outpatient and personal growth groups gave priority to self-understanding, catharsis, and interpersonal learning.

Butler & Fuhriman report several criticisms that have been directed at the Yalom model of therapeutic factors. First is the primary focus on the "here-and-now" in treatment and the subsequent under-emphasis of insight into the contribution of earlier life events on current interaction styles. Thus additional therapeutic factors may be missing which are primarily related to personal history. Second, the authors report that an item analysis was completed of the factors, indicating a high correlation among them. This may reveal, they suggest, that, in reality, fewer or more unitary factors may exist than the twelve listed. Further,

Butler & Fuhrman also note that the factors are assessed by self-report, using Yalom's measure, and imply the criticism that the theoretically derived model (Yalom, 1975) used in designing this measure limited data to those which supported the model. These data thus may provide less than the total picture of curative factors. Related to this, Bloch (1981) notes that these therapeutic factors are only inconsistently found to be related to treatment outcome. Klein (1983) criticizes that the validity of constructs proposed to be impactful in group treatment in general remains suspect due to persistent methodological problems in research. These criticisms suggest that more exploratory study may be required to adequately define therapeutic factors.

In defense of an individual treatment approach it may be argued that some or all of these curative factors would be available in an individual format. Natali and Cvitkovic (1977) maintain that group therapy "...adds a significant therapeutic dimension to the treatment process" (P.50) and proceed to describe this dimension as "...helping (group members) to resolve

interpersonal conflicts, to develop effective interpersonal skills, and to develop higher levels of self-and-other awareness." (P.51) Clearly, however, these features are not exclusive to groups since some learning of self-awareness is usually involved in individual treatment as well. If Bloch's or Yalom's categories are considered (they may be used interchangeably since they are so highly consistent with each other), the factors of self-disclosure, acceptance, insight, catharsis, guidance, the instillation of hope, and the existential factor are theoretically at least available in an individual therapy context. This leaves interaction, cohesiveness, universality, altruism, and vicarious learning as possible unique group factors. Indeed, these features are, it would seem, the main aspects by which group and individual approaches are proposed to differ. Thus, if the current representation of therapeutic factors is taken to be accurate, the present study can be seen as testing whether or not interaction, cohesiveness, universality, altruism, and vicarious learning add significantly to treatment power and therefore constitute a unique advantage of group over individual treatment.

It is important to note that the above therapeutic components are not the most dramatic or affectively powerful among Bloch's or Yalom's lists and, in fact, affective intensity is not, by implication, an important distinguishing feature of groups. Hence a comparison of group versus individual treatments need not contrast powerful affective therapies but simply therapeutic methods known to be effective that differ on these components.

In searching for unique and added features of group approaches it is also useful to go beyond the experimental laboratory research of the social psychologists and the theory of the clinical group researchers into the practical aspects of the available self-help groups.

While numerous criticisms have been offered of Alcoholics Anonymous, (Pattison et al., 1977) it is clear that the movement does have some powerful treatment components for many people. These components should be similar to the therapeutic factors outlined by Bloch and others above.

Kissin (1977) in discussing the therapeutic factors of A.A. suggests that it has many of the components common to existential psychology, such as confrontation, a pressure to accept reality, and an emphasis on openness and honesty. These clearly parallel Bloch's and Yalom's factors. In addition, A.A. provides models of changed behavior, as well as sustenance and moral support to its members. Finally, it provides an alienated population with an opportunity for group membership. Kurtz, (1982) in discussing the existential aspects of A.A. supports this view.

Doroff (1977) proposes that "...the pain of sobriety is now balanced by the rewards of (group membership in) A.A." Doroff also notes that A.A. regards the drinking problem as one previously outside personal responsibility but rendered accessible to personal will. Trice & Roman (1970) concur, but critique this as a bar to personal change. Doroff further notes the anti-psychotherapy, repressive, and religious aspects of A.A. Since these have been amply criticized elsewhere (eg. Pattison et al., 1977), they will not be considered here.

The group membership aspect of A.A. may be an essential facet of its treatment effectiveness although the continuing availability of A.A. groups over years cannot be replicated in time-limited therapies.

In summary, it appears that self-help groups such as A.A. have essentially the same therapeutic components as previously proposed for treatment groups in general.

Factors Unique to Individual Treatment

Clearly the entire practice of counseling and psychotherapy has not been swept up in a movement toward group format. While group treatment appears to have some unique advantages individual treatment is not without impact.

In fact, many of the factors proposed for group treatment are also expected to exist within individual treatment as suggested above and few are seen to be exclusive. However, most of the writing on therapeutic factors in treatment has been done from the viewpoint

of group treatment. Historically this appears to be due to the later emergence of group format as a treatment approach and the efforts of those studying groups to explore and establish the therapeutic impact of group treatment with reference to the standard treatment format of the time; individual treatment. As a result most discussions of separate factors which might suggest a preference for individual treatment appear to be mainly discussed within the group treatment literature. Following is a review of literature which discusses proposed therapeutic strengths of individual treatment.

Klein (1983) notes that individual treatment is much less complex in that the therapist is treating only one client at a time and is not involved in managing an entire complex social system.

Leiberman (1980) states that individual treatment is private, intimate, and exclusive. He further points out, in agreement with Klein, the ability of the therapist in individual treatment to concentrate fully on one other person. Leiberman notes that in focusing

on one individual only, the therapist can be in contact with the client much more intimately and intensely over a longer period of time. He suggests that the type and depth of material disclosed may be greater in the presence of a therapist alone.

Shulman (1979) emphasizes that the therapist can spend more time working on each presenting problem in individual treatment. The client may spend as much time as is necessary in dealing with a problem and is free to do so in individual treatment where the therapist may attend unimpeded by the concerns and influences of others. In addition, Shulman observes, fearful, shy, or unassertive clients may be more willing to participate meaningfully in this setting than they are in a group. Finally, he notes, clients will be more able to address problems specific to them rather than be limited to discussing problems which, in some way, relate to other group members.

Kovel (1976) suggests that groups cannot permit exploration of an individual's subjective world to the same level as can individual treatment, given the

frequent focus of groups on interactions. This is similar to Leiberma's and Shulman's statement above. Kovel notes that clients who tend to over-intellectualize may be more able to reduce this defensive posture in an individual setting. Kovel, similar to Shulman, also refers to the fact that, each group forms its own collective character in which some problems may be relevant and others not. As a result, some problems in an individual's life may be addressed in the group while others may not. Thus an individual may have a particular life problem which brought him to seek help but which may either not be experienced by other group members or may not be relevant to the struggle in which the group is involved in the process of its development.

Yalom (1975), in agreement with Shulman, states that a client may feel safer in an individual setting in order to work on some issues, or for some individuals to work on any issues. He notes that individual treatment may be a necessary testing ground for social involvement for some clients for whom beginning treatment in a group would be inappropriate. Finally he

observes that it is more easily possible to address relationships outside treatment in individual treatment than it is in groups.

It has been proposed that for the above reasons an individual format may offer particular advantages over group treatment. It appears, therefore, that the choice between the two formats is not so easily made.

Summary of Studies Reviewed

Alcohol consumption problems are widespread and costly, both in terms of financial loss to our community and in personal anguish. Numerous cognitive behavioral drink reduction treatments for problem drinkers have been developed but few have utilized group treatment. Those that have, found a respectable success rate.

Pattison (1979) stated that "...controlled studies have provided no support for the popular belief that group methods represent a superior approach (P.57)" but indicated that a wide range of treatment techniques and

poor experimental designs prevent the drawing of general conclusions. Miller et al. (1981) utilized a group treatment psychoeducational approach with favorable results but without a contrast to individual treatment. Later Miller & Taylor (1980) contrasted group and individual treatment using the same psychoeducational package. Group and individual treatments were found to be equally effective. While the Miller and Taylor study successfully controlled for differences in content between conditions, which was a major criticism of previous group versus individual contrasts, the experiment was severely flawed. Group treatment received almost double the treatment time of individual treatment, therapists were not distributed across conditions, and group members were not randomly assigned. In addition the treatment conditions differed widely from each other on alcohol consumption at pretest and data was missing on follow-up consumption figures for about half of the subjects. A replication and extension seems appropriate.

Social psychologists have found that several factors contribute to a possible added efficacy of

group format. Peer influence was found by Asch (1952) and others to have a significant impact on perception and judgment. Festinger (Festinger & Carlsmith, 1959) and others found that public presentations of inconsistencies in attitudes resulted in discomfort. Further, they found that this discomfort was resolved by a shift in attitudes toward endorsing that which had been publicly presented with little apparent payoff. Vinokur (1971) and others found that groups exhibit a tendency to endorse the more risky of problem solutions with group decision making.

The social psychological laboratory research implies that, in an alcohol treatment context; (1) peer influence will significantly shape attitudes in the direction of the group consensus, which is predetermined by volunteering for a drink reduction treatment to be self-selected individuals who endorse the goal of reduced alcohol consumption, (2) that the public endorsement of these goals within the group will further entrench the changed attitudes, and (3) that the group movement will be into more and more risky drink reduction goals and achievement.

Applied social psychology research indicated that modeling and social influence were an important contributing factor to consumption of alcohol and cigarettes. Eiser (1985) proposed a social influence model in which social identity to a primary social group is a key factor and rests upon giving influence potential to this group in attributing to it (1) the standards for self evaluation, (2) the major data source for relevant information, (3) and the major source of expectancies about an activity.

The applied and laboratory social psychological material implies that group treatment will (1) influence reduced drinking behavior by mutual modelling as weekly goals are set and achieved, and (2) provide a treatment reference group that will become a source of social identity with its open discussion of standards, relevant information and expectancies and thus will influence behavior in the direction of the reduction of consumption toward stated goals.

Group treatment research suggests that a number of therapeutic factors are associated with treatment

gains. Several different theorists have developed closely interrelated lists of therapeutic factors. Bloch et al. (1981) developed one of the most recent lists and his was closely related to that developed by Yalom (1975) which serves as one of the primary reference points in the field. Thus their models are used here interchangeably. Bloch's therapeutic factors are: (1) self-disclosure, (2) interaction, (3) acceptance or cohesiveness, (4) insight, (5) catharsis, (6) guidance, (7) universality, (8) altruism, (9) vicarious learning, (10) instillation of hope, and (11) an existential factor.

When these factors are critically reviewed, it becomes apparent that most of them are available and active in both individual treatment and group treatment. The exceptions are: interaction, cohesiveness, universality, altruism, and vicarious learning. These distinctive factors then become the critical factors by which group and individual treatments are said to differ and the ones to which all unique additional gains by group treatment must be attributed. These are not the factors which have been proposed to be the most

powerful therapeutic components of a group but they are those by which the two treatments can be distinguished.

A self help group in common use, Alcoholics Anonymous is also reviewed. Important therapeutic factors available appear to be: group cohesiveness, confrontation (similar to Bloch's insight and existential factors), universality, and self disclosure as the most important factors.

Social Psychology theories of group influence would appear to suggest that the most salient of the factors unique to groups are interaction, cohesiveness and vicarious learning (using this factor to include modeling). Interaction would provide the raw material for the development of group cohesion which would, by implication from the research of the various social psychologists above, interact in the context of an urge to be part of and consistent with a reference group. Part of the impact of this group would be exerted by observing others' interactions and thus extrapolating guides for behavior, and part by modeling others' behaviors.

Conclusion

There are ample theoretical suggestions that group treatment would have unique and additional impact when contrasted with individual treatment. Previous research attempting this contrast has been severely limited by design problems, particularly those which confounded treatment format (group or individual) with treatment content. The literature of studies contrasting groups and individual formats is about equally divided between those finding one or the other to be more effective or both to be about equal in impact. However, this total of previous research is itself suspect because the studies upon which it is based are themselves faulty. Definitive work which controls for treatment content in a contrast of group and individual formats is yet to be done.

Theoretical factors proposed to exist in group treatments generally appear in individual treatment, with the exception of five factors. These then become the critical factors by which group treatment is said to be different from and superior to individual

treatment. A previous effort (Miller & Taylor, 1980) at contrasting group and individual treatments utilizing a structured controlled drinking program that controlled for content differences across formats was quite flawed in its design. An additional problem with this research was that the subject groups were widely different at the outset on the major treatment variable of alcohol consumption. A replication and extension of this study with the design flaws remedied is in order as it would provide the opportunity for an accurate contrast of group and individual format with regard to therapeutic efficacy.

Purpose and Hypotheses

The purpose of the current study is to test the difference in therapeutic impact between group and individual formats in treating problem drinking. Group and individual treatment methods are contrasted using the same structured psychoeducational treatment package in both formats to control for treatment content. The subjects are early problem drinkers taking part in treatment with the goal of reduced alcohol consumption.

The Research Hypotheses are:

- (1) Group treatment format will be superior to individual format, leading to greater reduction in alcohol consumption and greater improvements in social functioning.

This difference is proposed to be the result of added factors present in group but not individual treatment. These additional therapeutic components have been proposed to be interaction, cohesiveness, and vicarious learning.

- (2) Both group and individual format treatments will be superior to a wait list control condition in showing a greater reduction in alcohol consumption and greater improvement in social functioning.

The Program designed for this study was a highly structured and compact intervention drawing on the work of several researchers. It was proposed that it would be a powerful intervention in assisting clients in controlling their alcohol consumption.

For purposes of testing these hypotheses, primary and secondary measures were used to assess treatment gain:

- (1) primary treatment measures: weekly alcohol consumption and peak day alcohol consumption,
- (2) secondary treatment measures: self-report of problem severity, recent mood, and social adjustment.

CHAPTER 3

Methodology

Overview

This chapter opens with a discussion of the experimental design chosen to test the hypotheses of the current study. A discussion of the specific procedures of this study is followed by a discussion about the subjects of the study, and the materials used in the study.

Experimental Design

The designs employed in this study were: (1) a pre-test post-test comparison of treatment conditions for contrasts relevant to the first hypothesis of the study (H₀₁: Groups will be more impactful than individual format treatment) and in which the individual treatment served as a control condition, and (2) a pre-test post-test comparison of treatment and a control condition for the second hypothesis of the

study (Ho2: Treatment will be more impactful than no treatment).

These may be illustrated as follows:

Ho1: R O₁ X₁ O₂ O₃
 R O₄ X₂ O₅ O₆

Where R indicates random assignment of subjects, X indicates a treatment, and O indicates testing using the research measures and includes the pre-test, the post-test, and the six month follow-up post-test. In this design all subjects are randomly assigned to one of the two treatment conditions, each of which receive a different treatment format. Measures are then collected for all subjects at the end of treatment. Measures are again taken six months later.

Ho2: R O₁ X O₂
 R O₃ O₄

In this second design all subjects were randomly assigned to one of two conditions. The first condition received treatment while the second served as a wait list control condition. Measures were then collected for all subjects at the post-condition position.

The purpose of a control condition in the above designs was to provide an independent assessment of the stability of a target behavior when an intervention directed toward that behavior is not given. While control groups are a frequent demand of rigorous research it has been pointed out on occasion that they may be unnecessary given the extremely common finding of behavioral stability.

Campbell and Stanley (1963) recommend these designs as true experimental designs. In the use of this design they recommend that gain-scores, the changes between the pre-test measure and the post-test measure, be avoided as this may artificially support a significant difference, particularly if the gain of the control condition is near significance. Rather they suggest that the pre-test scores be utilized to form blocks or that they be used as covariates for the post-test score comparisons, as in the current study.

While the design utilized a common subject pool, the inclusion of some subjects in more than one condition necessitated the division of the designs and statistical analyses into the separate hypothesis. This will be discussed more fully below in the procedures section.

Subjects

Populations and Samples

The target population of this study was early stage problem drinkers. The accessible population consisted of early stage problem drinkers in a moderately sized city. The actual sample consisted of volunteers for treatment at a controlled drinking clinic who responded to a newspaper advertisement for this clinic and met several screening criteria.

Recruitment and Selection

Subjects were screened briefly during an initial telephone interview, during a face-to-face interview, and after receipt of a medical report (Medical Screening; Appendix A). The purpose of the screening was to divert from these treatments any individuals who: (1) had medical contraindications to continued but reduced alcohol consumption: (2) appeared to have more severe or extensive problems in the areas of career, social integration, or relationship due to alcohol problems (several job losses, friendship disintegrations, or marital disruption due to

alcohol involvement): (3) appeared to be physiologically addicted to alcohol from the amount of consumption reported (i.e. 60 or more drinks per week): (4) had a lengthy duration of drinking problem (ten years or more): or (5) had previous and unsuccessful treatments for alcohol consumption problems (especially inpatient treatments).

Approximately half of the total number of subjects to the program were diverted at the telephone interview or failed to attend screening appointments. Two individuals were diverted from treatment in this program as the result of a face-to-face interview or medical advice. One was referred to an abstinence program and one to a psychiatrist. Finally, one couple and two siblings entered treatment together and were thus placed randomly as a unit in the same treatment condition, that of the group condition.

Thirty-eight subjects participated in the experimental program for early stage problem drinkers. As indicated above, some subjects were included in more than one condition, that is they appeared in a wait-list control condition, and were then invited to participate in treatment and thus appeared in a treatment condition as well. As a result of this maneuver there were sixteen subjects in each

condition of group treatment, individual treatment, and the wait-list control condition.

Therapists

Two therapists participated in the study. One was female and a therapist of considerable experience in treating substance abuse disorders. She was also a staff trainer for the provincial agency mandated to treat substance abuse disorders. The other was male, also with considerable experience in the treatment of substance abuse disorders, and was the clinic coordinator and supervisor of the clinic site of the study. Both received the same briefing and training program manual to follow. Clients in the treatment conditions were split so that each therapist treated half of each condition.

Procedure

Treatment Conditions

The current study was constructed to test two separate hypotheses. The first and major hypothesis of interest was that group treatment would be more effective than was individual treatment. This was tested by operating two

treatment conditions with the same content but varying on group or individual format. The relative efficacy of the two formats was assessed by statistical contrasts of post-test measures of alcohol consumption, lifestyle problem severity, mood, and social adjustment.

The second hypothesis of interest was that treatment would be more effective than would be no treatment. This hypothesis was tested by operating another condition, that of a wait-list control group who did not receive treatment prior to post-test. The efficacy of treatment was assessed by statistical contrasts between those subjects who had received treatment and those who were in the no-treatment condition on alcohol consumption measures.

Both treatment conditions were eight weeks in length and consisted of once-weekly meetings of 1.25 hours each. Clients in each condition were unaware of the existence of the other conditions and clinic appointments were arranged so that the other conditions did not meet those of the others. Wait-list clients were unaware, for the duration of the experiment, that they were assigned to this control group condition. The nature of the procedures were explained to the clients at the end of the individual's participation.

Review of Design

The design consisted of post-test comparisons of different experimental conditions. The statistical procedure utilized was analyses of covariance, which used the pre-test position on each of the measures tested as the covariate in the contrast of that post-test measure. This allowed corrections for individual differences so that differences due to the treatment conditions themselves could be more discernible and adjusted for wide initial individual differences.

The project procedures can best be described within the context of the history of the field study. Within this framework it is possible to discuss the numerous unique facets of this particular experiment. This will be presented in Design Adjustments and Statistical Considerations below.

Contact and Selection of Clients

An advertisement (Appendix B) was placed in the local large-subscription newspaper weekend edition. Following this, applicants to the program began to telephone to enquire about the program and were placed alternately into

one of the three conditions: group format, individual format, or the control group condition. An initial telephone screening was given which included taking alcohol consumption data and giving initial information about the treatment condition to which the client had been assigned. For those who satisfied the initial screening criteria for the clinic an appointment was made for a personal interview with the prospective client and his or her significant other, if available (See Client Consent Form, Appendix C).

Random Assignment

Alternate assignment at first contact to the treatment conditions was chosen as a method of random assignment since applicant enquiries were received on a random basis and nothing was known about the applicants at the time of assignment.

Those in the wait-list control group condition were assigned to be treated at the completion of the control group period as an ethical consideration. During the eight week wait-list period these individuals had no contact with the clinic. At the end of the wait-list period they were re-assessed with regard to the consumption variables and then placed into treatment.

While it was originally intended that the conditions would be filled through this alternate assignment, it soon became apparent that this was not possible since fewer applied to the program than were expected and since about half of those who applied were judged to be inappropriate based on the previously existing admission criteria for the clinic (consistent with previous clinic trends).

Collateral Verification by Significant Others

Significant others were invited to attend the first personal interview and post-treatment and follow-up interviews. They were present during the assessment interview and were asked to validate or correct the client's reported consumption and his or her reports of other related problems.

The use of significant others in some studies has been a great deal more involved than in this study in light of a commonly accepted belief that persons with alcohol consumption problems routinely misrepresent their consumption. However, with similar samples and programs and with the use of very exacting validation checks the most frequent finding in the literature is that these individuals correctly report their alcohol consumption, in contradiction to the commonly

held belief that similar people will always misrepresent themselves. A summary of this literature is included in Appendix D. Thus, the decision was made to use significant others in the fashion described above.

Design Adjustments

Treatment starts were staggered, in that, clients began treatment at different times depending on the availability of clients and therapists as well as the completion of screening procedures. At the point wherein it was discovered that fewer subjects than were expected were available, the first group of the group treatment had begun treatment and several individuals in the individual treatment condition had also begun treatment. Several wait-list clients had also begun their wait-list period of eight weeks. Interviews and some initial screening were still proceeding with most of the remainder of the subject pool and some applications to the program were still being received, although at a much reduced frequency. In view of this, the decision was made to place all remaining clients, who had already been informed about their assigned treatment condition, into the wait-list condition first, once interviews were complete with each, and then to place them into their previously assigned treatment condition upon completion of the wait-

list period and re-testing. This allowed each condition to have sixteen clients per cell, although it necessitated some changes in the data analyses. The timing of this decision resulted in one client from the group condition and nine from the individual condition being placed onto the wait-list prior to entry into their pre-assigned treatment condition.

Statistical Considerations

As noted above, this design adjustment necessitated changes in the data analyses. Specifically, the statistical analyses adjustments required were twofold. (1) Firstly, the clients who appeared in both the wait-list and the treatment conditions were eliminated from consideration in one of these cells so that they would not be compared with themselves within the same analysis. Thus, while each condition had sixteen clients, the data analyses of the first hypothesis, that group treatment would be more effective than individual treatment, utilized sixteen clients each from both the group condition and the individual condition but did not use the wait-list data which, after all, was not central to the hypothesis tested. Similarly, the data analysis of the second hypothesis, that treatment using the present program would be more effective than an

equivalent duration wait-list, used sixteen clients from the wait-list, and twenty-two clients from the two treatment conditions. Ten were eliminated from the treatment conditions as they also appeared in the data set for the wait-list condition.

(2) Secondly, statistical contrasts were required to ensure that being placed on a wait-list prior to treatment did not systematically bias the outcomes in contrast to those who directly entered treatment. At the same time data analyses were performed to ensure that the two groups of the group condition were similar. Thus, a number of data analyses were carried out prior to the primary data analyses related to the experimental hypotheses, in order to establish that no systematic differences existed as a result of being placed on the wait-list or not.

At treatment completion clients were once again interviewed and data taken on a variety of measures. Wait-list clients were measured on consumption variables at the completion of the wait-list period and then placed into their pre-assigned treatment.

Six months after the completion of treatment, clients were once again interviewed and assessed.

This procedure is represented in the Figure 1 below.

Figure 1

Historical Description of the Overall Procedure

(1) Alternate Assignment	(2) Pre-Test	(3) Treatments begin at stag- gered times	(4) Post-tests at stag- gered times	(5) Follow-up for treated clients
Contact	Interview	Group Tx begins	Tx ends assess	Assess
Contact	Interview	Indiv. Tx begins	Tx ends, assess	Assess
Contact	Interview	Wait-list begins	Ends, then wait-list was invited into treatment	

Tx - designates treatment

Materials

The Treatment Program

The group and individual treatment interventions utilized a parallel treatment manual. That is, every effort was made to ensure that the two treatments were as similar as possible so that the content of treatment would not become an uncontrolled variable. In accordance with this concern the timing and the time allotted to each of the seventeen treatment interventions was fixed in the program design. In addition, a highly specific treatment manual was developed to control the content of the interventions. However, there were inevitably some treatment effects which could not be so controlled. These were considered minor in light of the above controls, although this was not measured, but are considered here for completeness.

For example, in the intervention called "the functional analysis of drinking" the clients are asked to analyze their drinking episodes and the functions of these. In the group setting less time was available for each to describe his or her functional analysis. However, on the positive side the

analyses of the other group members were available to them. In part, this fits with one of the proposed curative factors of groups in particular, that of vicarious learning and modeling or learning by the experiences of others. Thus this intervention was different in a group setting in that it decreased the time available for each member and increased the total information available to the client in comparison to the individual treatment. Similar differences between the group and individual formats existed with the remaining interventions.

The current study took place at the Vancouver, British Columbia Health Department as an implementation of the SKILLS Program, which had been developed to assist early-diagnosed problem drinkers in reducing their alcohol consumption. The program was developed by Dr. Lynne Alden and had been the subject of previous research (Alden 1980, 1983). However, the content of the current treatment program was developed specifically for this study.

The treatment was a highly structured treatment program lasting for eight weekly meetings of one-and-one-quarter hours each, plus one to two hours homework per week. The content was extensive and involved seventeen interventions drawn from the works of Alden (1980, 1983), Miller & Munoz

(1982), Marlatt & Gordon (1980), Addiction Research Foundation of Ontario (1982), Janis & Mann (1977), Heather & Robertson (1982), Sanchez-Craig (1982), D'Zurilla & Goldfried (1973), McKay et al. (1981), and others. Due to the level of structuring and the amount of material it was proposed that the therapist generated content would be controlled and essentially similar across treatment conditions. That is, that content would be basically similar in each of group and individual formats. This was done as an effort to reduce therapist and content effect.

The current treatment program followed a social-learning perspective of human functioning and change common to most of the previously reviewed treatments and, in fact, utilized interventions from many of these previous programs. Social-learning theory suggests that behavior results from intrapersonal and interpersonal reinforcers and that change requires alterations in the array of contingencies which maintain a problem behavior.

Accordingly, interventions either provided behavioral skill components which would serve to alter drinking behavior and to enable the clients to experience success at doing so, or were designed to alter the cognitions of the client in relation to the problem behavior. Clients attended

treatment as the result of a decision to alter their drinking behavior. This decision was usually crisis-driven with little in-depth consideration of the impact of the decision in terms of the many costs and benefits that would emerge in their ongoing lifestyles. The social-learning perspective suggests that, unless the contingencies related to these costs and benefits of change are altered to be consistent with the changes, the problem behavior will likely re-emerge over time.

Clients in the group condition sat around a large table, facing and interacting with one another. The therapist sat at one side frequently using a black-board. All interactions occurred within the group context such as reporting drinking amounts, progress charting, reporting techniques used and experiences with these, giving and receiving advice and feedback to other group members, personal perceptions and insights, frustrations and failures. The purpose was to ensure that group interaction was taking place to allow for optimal conditions for group process or group influence to develop.

Figure 2

Interventions Utilized and Timing of Their Use

	<u>Weeks used</u>							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
(1) Monitoring and Graphing	*	*	*	*	*	*	*	*
(2) Autobiography	*	*						
(3) Alcohol Problem Information	*							
(4) Decisional Balance Sheet		*	*					
(5) Changing Drinking Style 1		*	*	*				
(6) Setting the Weekly Goal		*	*	*	*	*	*	*
(7) Functional Analysis of Drinking Behavior			*	*				
(8) Rationalizations			*	*				
(9) Relaxation				*	*			
(10) Impulse Control				*	*			
(11) Changing Drinking Style 2					*	*		
(12) Problem Solving					*	*		
(13) Thought Catching						*	*	
(14) Apparently Irrelevant Decisions and Abstinence Violation Effect						*	*	
(15) Setting Limits for Yourself						*	*	
(16) Inform Others of a Commitment to Change							*	
(17) Lifestyle and Unmet Needs							*	*

The treatment package was designed specifically for the current study and drew on previous researchers' efforts in the areas of reduced alcohol consumption weight control and smoking cessation. A brief description of these individual treatment components follows. Several interventions were utilized or reviewed at each meeting. They are presented here in the order of appearance in the treatment program. The order of presentation is also summarized in Figure 2.

1) Monitoring and Graphing

This section was based on work by Miller & Munoz (1982), Alden (1983), and others.

Clients were taught how to monitor and quantify their consuming behavior. The purposes of this are several. Firstly it provided more accurate self-report data, secondly it provided quantitative figures which served as a baseline and, later, as progress markers, and thirdly it helped the clients to become more aware of their own drinking patterns and severity (See Appendix E).

Monitoring and graphing is well-described in Miller and Munoz (1982). The rationale and method for this

procedure was described in detail so that the client could accurately monitor consumption, convert this to Standard Drink Units, and graph weekly and peak day alcohol consumption over the course of treatment. Description, demonstration, and assistance with this procedure was repeated over at least the first three weeks of treatment and graphing results were discussed weekly until the end of treatment.

2) Autobiography

This section was adopted from Marlatt & Gordon (1980), and Gawain (1979).

Clients are asked to first describe themselves as problem drinkers and to describe what this image meant to them. The purpose was to explore self-defeating negative visualizations of the self. Clients were then asked to describe themselves as they intended to be after achievement of their goal - controlled and reduced drinkers. This positive visualization was intended to aid in the development of a positive self concept and to assist the client in making his or her goal more realistic, more vivid, and thus more attainable, and also involved becoming more emotionally committed to the goal of behavior self-control and

reduced alcohol consumption. This is related to decision-making in exploring alternatives.

Autobiography was described and assigned to be carried out at home as a written assignment. The experience of doing the exercise was discussed at the following session in order to enhance the vividness of both the problem drinker and the controlled drinker visualizations and to explore any discoveries or problems encountered.

3) Alcohol Problem Information

This material was taken from Miller & Munoz (1982), & Addiction Research Foundation (1982).

This section provided information on the reality of the goal of problem drinking and also the health risk of continued high consumption.

Alcohol problem information consisted of some information from Miller and Munoz (1982) (p.145-151) and an Addiction Research Foundation "Risk-O-Graph" which pictorially presented the comparative health risks of low, medium, and high alcohol consumption. This information was presented and discussed and clients were assigned to read the material in detail at home.

4) Decisional Balance Sheet

This part was adapted from Janis & Mann (1977).

The decisional balance sheet was intended to assist the clients to re-process the sometimes hasty decision to reduce drinking and to realistically explore the factors that may appeal to them about a return to higher consumption.

The Decisional Balance Sheet is described and presented in detail in Janis and Mann (1977). The task was introduced as an opportunity to reconsider the often-hasty decision to reduce alcohol consumption with detailed consideration of the costs and benefits involved in decreasing consumption. The task was assigned as homework after discussion of the task and methodology, and the results were discussed during the following session.

5) Changing Drinking Style I

Adapted from Miller & Munoz (1982), Heather & Robertson (1982), and from various clients and staff.

This section provided nineteen strategies for reducing drink consumption at a very practical level. Clients were asked to explore two or more of their choosing.

Changing Drinking Style 1 is a list of drink reduction techniques. The list was introduced as a variety of simple, varied, and powerful techniques from which clients are asked to select and try some. The methods were briefly discussed and information was elicited as to client's previous experiences of success or failure with the techniques. Experimentation was then assigned as homework and successes and problems discussed the following week.

6) Setting the Weekly Goal

Adapted from basic behavior modification principles such as DiRisi & Butz (1975), Tharp & Wetzel (1969). From the second week onward clients were asked to commit themselves to a weekly alcohol consumption goal which was twenty-five to thirty percent less than their prior week's consumption, or at their end goal.

Setting the weekly goal begins at the second week onward when clients were asked to select an attainable weekly drinking target for the following week. They were asked to discuss methods they planned to use in order to achieve the weekly goal. The following week the success or failure of goal attainment was discussed

along with other methods which might prove helpful.

This discussion and goal-setting was repeated weekly.

7) Functional Analysis of Drinking Behavior

This was adapted from Sanchez-Craig (1982).

This section returned to decision making and explored further the adaptive intent or hoped-for outcome in choosing to overdrink, the subsequent difficulties in achieving these intended goals after having over-consumed, and the events in which drinking was reduced and goal attainment was successfully achieved.

Functional Analysis of Drinking has been described in detail by Sanchez-Craig (1982). This was introduced as an exploration of the personal motivations for drinking and the success or failure of responding to these motivations through over-drinking and through controlling consumption. After introduction this was assigned as homework and the results discussed during the following session.

8) Rationalizations

Adapted from Janis & Mann (1977).

This section returned to decision making as well and explores the self-destructive nature of

rationalizations which are used in order to continue on a known problematic path such as overdrinking. The intent was to clearly portray the most common rationalizations, to illustrate their illusory qualities and to reduce their impact.

Rationalizations has been derived primarily from Janis and Mann (1977) and is detailed therein. Rationalizations were introduced as myths repeated off-handedly to support old decisions and avoid the turmoil of becoming re-engaged in a decision-making process. Janis and Mann's list of rationalizations around smoking was discussed and then rationalizations around drinking were elicited. A list of these was then offered and added to if possible by each client. Clients were assigned to discover how they used rationalizations and this was discussed in the following session.

9) Relaxation

Adapted from commonly used relaxation/hypnotic induction techniques.

Clients learned and practiced a brief relaxation procedure which could be used in any situation for any length of time. The purpose of the technique was to assist the client in reducing tension at given moments

so that he/she would recall and be able to use his/her goal and drinking plan.

Relaxation is a standard relaxation sequence adapted so that it can be used in any situation. This adaption was discussed as relevant to the task of controlled drinking. Relaxation was demonstrated in a chair with closed eyes on two sessions and discussed and assigned to be used between sessions. With closed eyes clients are taught to associate the relaxation of their muscles upon breathing out with a feeling of 'being relaxed.' They were then taught to associate a passive volitional or permissive sense of relaxation with the word 'relax' and the muscular relaxation of letting breath exhale. The exercise was assigned and discussed in the following session.

10) Impulse control

Adapted from D'Zurilla & Goldfried (1973), and Marlatt & Gordon (1980).

This section gave a brief procedure and demonstration of an impulse control technique similar to covert sensitization and was designed to reduce drinking urges when they develop.

The impulse control sequence has been adapted from several writers. Briefly, impulses were introduced and discussed as affective pressures that tend to short-circuit decision-making, and it was stated that problem impulses could usually be identified for each person and prepared for. The problem impulse of drinking was discussed and a means of estimating the severity of this impulse was chosen. Then two types of cognitive interventions were chosen and developed: one a list of reasons for not carrying out the problem behavior, the second an imaginal scene of consequences of the problem behavior. In two sessions and assigned in between clients were asked to measure the impulse, use either or both of the list and the image for ten seconds, re-measure the impulse, and then either re-use the intervention or exit, reviewing possible problems and changes, and rewarding themselves cognitively.

11) Changing Drinking Style II

Adapted from Miller & Munoz (1982), and Heather & Robertson (1982).

This section gave more general strategies than Changing Drinking Style I and was designed to assist the client in understanding the ways in which environment, people, and other factors influenced his drinking compulsions

and to help him/her become aware of methods for controlling this influence. Clients committed to utilize these strategies and report back.

Changing Drinking Style II is adapted from Miller and Munoz (1982) and Robinson and Heather (1982). This was introduced as an exploration of the circumstances of problem drinking: antecedents, location, persons, times, emotions, and other markers associated with problem drinking. These were introduced in detail and the client was assigned to explore these in the coming week, from experience or memory. These were discussed during the following session.

12) Problem-Solving

Adapted from Marlatt & Gordon (1980), D'Zurilla & Goldfried (1973), Sanchez-Craig (1982), McKay et al. (1981), and Janis & Mann (1977).

This section developed general problem-solving strategies. It included the following: reasons cited by failed clients for their failure to maintain success, previous failure rates, and general problem-solving methodology including blocked decisions and the application of problem-solving to interpersonal relationships and negative self images. The purpose was to

provide a tool for use with drinking and other problems.

Problem solving was adapted directly from Sanchez-Craig (1982) and a detailed discussion may be found therein. Problem solving stages were described and discussed in general, and then problem solving of interpersonal problems and negative emotions were discussed. Reference is made to the failure of most problem drinkers in a short time due primarily to these two problem areas. Blockages to problem solving were addressed as unresolved internal conflicts and methods of resolving these were discussed and demonstrated briefly. The activity was assigned and discussed at the following session.

13) Thought Catching

Adapted from McKay et al. (1981), and Meichenbaum & Genest (1980), and clinical experience.

This technique was designed to sensitize the client to minimal awareness self-defeating thinking and to then respond by using a method of counteracting the impact of this thinking.

Thought Catching was introduced as impulse control directed toward early-emerging impulses to overdrink rather than full-blown cravings. Clients were taught by discussion and demonstration how to detect and control these emerging impulses and to then use impulse control methods to reduce them. This was explored at one session, then assigned during the following week and discussed in the following session.

14) Apparently Irrelevant Decisions and Abstinence

Violation Effect

Adapted from Marlatt & Gordon (1980).

These techniques addressed two experiences which are commonly associated with overconsumption. The first is decisions made which are apparently unrelated to drinking but tend to lead to higher risk situations, and the abstinence violation effect is the choice to feel failure and choose abandonment of goals when success is not met, and to use this to permit an episode of overdrinking. The purpose was to sensitize the clients to these processes in order to control their impacts.

Apparently irrelevant decisions and abstinence violation effect are both discussed in detail in Marlatt

and Gordon (1980). The concepts were introduced by clinical examples and an exploration of the effects of these in the lifestyles of the clients ensued. Planning for these followed with specific behavior self-control methods being developed. Detection of the influence of either or both of these concepts with appropriate interventions was then assigned and discussed during the following session.

15) Setting Limits for Yourself

Adapted from Miller & Munoz (1982), & Alden (1980). This section included a contract with oneself around alcohol consumption. The purpose was to again make more explicit and committed the decision to reduce alcohol consumption.

Setting limits for yourself is discussed in detail in Miller and Munoz (1982). Clients were asked to explore and commit themselves to alcohol consumption limits and to calculate exact numbers of these by considering body weight, alcohol concentration in a beverage, and alcohol level in the blood. Discussion, calculation and commitment took place in one session and were assigned. Discussion of problems and discoveries took place in the following session.

16) Inform Others of a Commitment to Change

This was adapted from research by Festinger (1959), Bem (1967), Rokeach (1971).

This section involved a further step in decision making, publicly stating that a change has occurred or is occurring. The purpose was to enhance commitment to change.

Inform others of a Commitment to Change was introduced as a method of supporting decisions to change through more public statements of these commitments. Clients were asked to discuss this exercise and then choose someone in their environment to inform about their changed alcohol consumption patterns. They then were assigned to inform this person and report the results back to the group the following week for further discussion.

17) Lifestyle and Unmet Needs

Adapted from Glasser (1965) and clinical experience. The purposes of this section were to help clients become aware of their personal needs in order to discover whether or not these were currently met, to understand the function of alcohol as an alternative to meeting needs directly, and to understand the function

of meeting needs directly in maintaining lower alcohol consumption.

Lifestyle and Unmet Needs introduced the concept of personal needs and the requirement that these be met in order to feel complete and satisfied. When they are not met a person will feel frustrated, perhaps bitter and hopeless. The person may try to address the need indirectly, through problem drinking. Clients were asked to discuss the ways in which they used alcohol in this fashion in the past and how their personal needs were not met at that time. They were then asked about how effectively they were meeting their needs at the present, emphasizing the imperative to meet their needs to maintain controlled drinking and bringing to awareness the legacy of feelings around needs not well met.

Screening Measures

Several measures were taken at the outset. Some of these; alcohol consumption, Life Satisfaction Questionnaire, Profile of Mood States, and the Weissman Social Adjustment Scale, were also used as measures of treatment effect and thus will be discussed in the next section, Dependent Variables. The rest were primarily demographic, included to

give a more complete picture of the type of subjects who took part in this study. Thus the following data were collected: gender, age, relationship status, employment status, education level, history of problem drinking in the family of origin, duration of drinking problem, and scores on the Michigan Alcoholism Screening Test.

The Michigan Alcoholism Screening Test (MAST) (Selzer 1971) (See Appendix F) is a frequently used instrument for the categorization of clients with regard to severity of alcohol problems. The MAST has been utilized in previous controlled drinking studies and found to be a useful measure of problem severity. A study sample reported by Sanchez-Craig et al. (1984) had an average MAST score of 18.6. A study sample reported by Miller and Baca (1983) which combined subjects of the Miller Taylor & West (1980) study and the Miller & Taylor (1980) study was found to have an average MAST score of 16.8. The sample used by Miller, Gribskov & Mortell (1981) had an average MAST score of 17.59. Miller, Pechacek and Hamburg (1981) studied a sample with an average MAST score of 15.5.

Dependent Measures

Two primary dependent variables were included, plus a number of secondary and exploratory dependent measures. These will be discussed below.

Alcohol Consumption

The primary dependent measures were chosen because they were central to the goals of the treatment and they are a common measure of treatment outcome in controlled drinking research.

These dependent measures were (1) weekly alcohol consumption and (2) peak day alcohol consumption. The data was obtained by self-report using self-monitoring cards collected at the beginnings of the second and later sessions of treatment and follow-up. The cards were filled out during all drinking events (or immediately after if another method was chosen for monitoring at the time of consumption). Weekly consumption was measured in Standard Drink Units (S.D.U.) (Miller & Munoz, 1982), a method of assessing alcohol content independent of strength of drink and volume. Thus, for example, a bottle of 5% beer is 1.2 S.D.U., a 4

oz. glass of wine is 1 S.D.U., a 1 oz. glass of spirits is .8 S.D.U. and so on. Weekly consumption consists of the total Standard Drink Units consumed over seven days. Peak consumption consists of the total Standard Drink Units consumed on the heaviest consuming day during the period in which the weekly consumption figures were being gathered.

Self-report of drinking through self-monitoring is an easily taught procedure and is generally accepted as reliable and valid.

Secondary dependent measures were chosen for further exploration of treatment impact. These were: reported problem severity, reported mood, and reported social adjustment. These are discussed below.

Life Satisfaction Questionnaire

Reported problem severity was chosen in order to reflect changes on a variety of life problems other than consumption over the course of treatment. It was proposed that treatment would also impact these other areas as the client experienced success at reducing consumption, and as the chemical effect of the alcohol interfered less in problem-solving or problem awareness.

A non-standardized measure was in use at the Vancouver Health Department SKILLS Program and was adapted for this purpose (Appendix G). The measure is a brief check-list of eight problems to be rated on a five point Likert Scale ranging from "not at all" to "completely." This scale, entitled the "Life Satisfaction Questionnaire" included the following items: intimate relationships, job or career, ability to cope with stress or anxiety, ability to cope with depression, social relationships of support, self-esteem, ability to express anger, and ability to express feelings. The measure is scored by adding up the points over the items.

An inter-item correlational analysis was carried out on the questionnaire with the sample utilized for this study at intake, and an internal consistency reliability coefficient (Cronbach's Alpha) of .84 was found, which was deemed adequate for research purposes.

Profile of Mood States

Reported mood was also expected to be altered by treatment progress, such that elevated mood was expected as success at reducing alcohol consumption was experienced and the chemical depressing effect of alcohol minimized.

The measure chosen to assess mood was a standardized published measure (McNair, Lorr, Droppleman, 1981) and has been used in previous research in controlled drinking (Miller, 1978, Miller, Hedric & Taylor, 1983, Miller & Baca, 1983), and been found to be responsive to treatment (See Appendix H).

This self report measure, the Profile of Mood States (POMS) consisted of sixty-five adjectives to be endorsed on a Likert-type scale ranging from "not at all", "a little", "moderately", "quite a bit", and "extremely" to the question "How have you been feeling during the past week including today?" Six affective states were assessed: tension-anxiety, depression-dejection, anger-hostility, vigor, fatigue-inertia, and confusion-bewilderment. The scale was scored to elicit a "Total Mood Disturbance Score" which was "obtained by summing the scores (with vigor weighted negatively) on the six primary mood factors" (p.6, McNair et al. 1981).

Weissman Social Adjustment Scale

Reported social adjustment was also expected to be related to treatment success for similar reasons. That is, it was expected that general social functioning would

increase with treatment progress as a function of increased control of alcohol consumption.

A number of social adjustment scales were reviewed and the Weissman Scale was selected as the one best suited to the treatment population, as most others were developed for chronic mental patients. The Social Adjustment Scale - self Report was developed by Weissman (1976) for use with outpatient depressives and has been used with a variety of subject groups and found to have high reliability. It assesses functioning in the following areas by self-report on a Likert-type Scale: Work outside the home, work at home, work as a student, social and leisure time use, extended family, marital functioning, parental functioning, family unit, and economic functioning. An overall adjustment score is obtained by dividing the sum of all item scores by the number of items actually used (See Appendix F).

Data were analyzed first to obtain a summary of the demographic data and to provide checks for a number of issues required to enhance the validity of the results. Following this, analyses of covariance were carried out, utilizing contrasts representing the research hypothesis.

CHAPTER 4

Results

This chapter presents the results of the study with emphasis on the statistical treatment of the data. The chapter is divided into two sections. The first section reports the statistical analyses of the various subgroups used in the study in order to establish the equivalency of the comparison groups. The second section reports the statistical analyses specific to the testing of the hypotheses in question.

Section One: Descriptive Statistics

In order to avoid the methodological problems cited in the major earlier studies cited in the review chapter, it is essential to carry out statistical contrasts which will establish equivalency of subject groups in the different conditions. Thus it is necessary to establish that the treatment conditions did not

Table 1

Characteristics of Clients in Group and individual Treatment:

Hypothesis 1

Social and Demographic Variables

<u>Variable</u>	<u>Group(n=16)</u>	<u>Individual</u>
Age (years)		
M	38.31	35.00
SD	9.51	8.27
Education (years)		
M	13.94	13.38
SD	2.02	2.33
Duration of Problem (years)		
M	5.19	4.63
SD	2.86	4.87
Sex		
Males	50%	37.50%
Females	50%	62.5%
*Relationship		
Couple	87.50%	50%
Single	12.50%	50%
Employment		
Employed	81.30%	81.30%
Unemployed	18.80%	18.80%
Family History		
Drinking Problem	56.30%	62.50%
No Drinking Problem	43.80%	37.50%
*Significant Other		
Present at pre & post-test	68.8%	25.00%
Not Present at both	31.30%	75.0%

*p<.05

differ significantly at the pre-test position. Demographic data is also presented in this section for each hypothesis separately and then for the entire subject sample for the study. In this section the descriptive subject information is presented. The information is summarized in Tables 1 to 4. Table 1 refers to the subject pool utilized in the test of Hypothesis One (H₀₁: Group format will be more effective than individual format). This table summarizes the social and demographic data which were then contrasted by t-test for the ratio data and by Chi-Square for the nominal data to test for significant differences antecedent to the experiment between the subjects in the two treatment conditions.

Of fourteen relevant measures only two were found to be significantly different and these were likely related. The group condition was found to have significantly more subjects who were in a relationship, 87.5% as compared to 50% in the individual condition. Also, the group condition had significantly more subjects who provided a significant other at pre-test and post-test, 68.8%, as compared to 25% in the individual

Table 2

Characteristics of Clients in Group and Individual Treatment:Hypothesis 1Alcohol Consumption and Related Pre-test Measures

<u>Variable</u>	<u>Group(n=16)</u>	<u>Individual(n=16)</u>
Weekly Consumption at Screening Interview		
M	28.00	24.79
SD	10.56	11.67
Peak Consumption at Screening Interview		
M	9.50	9.07
SD	3.41	4.67
Life Satisfaction Problem Checklist		
M	26.88	26.50
SD	3.74	5.08
Profile of Mood States		
M	43.25	66.07
SD	44.28	56.65
Social Adjustment Scale		
M	1.88	1.93
SD	.33	.60
Michigan Alcoholism Screening Test		
M	10.63	14.36
SD	6.30	12.25

condition. All other dimensions were non-significant. It was concluded that on most of the fourteen measured dimensions the two conditions were essentially similar and that differences at post-treatment could thus be attributed to events occurring after the pre-test, such as the treatment formats. Table 2 summarizes the pre-test measure results (on the variables later utilized as dependent measures) of the treatment conditions used in the test of the first hypothesis. No significant differences emerged on any of the five pre-test measures, further supporting the conclusion that the subjects in the separate treatment conditions are essentially similar.

Table 3 refers to the subject pool utilized in Hypothesis two (H02: Treatment will be more effective than no treatment). These data were then contrasted by t-test and Chi-Square. On these contrasts three measures of the fourteen measures taken were found to be significantly different between the treated condition and the wait-list control condition at post-test. These include the two enumerated above in the subject pool for the first hypothesis, which is understandable

since the two subject pools largely overlapped and the numbers going from the wait-list to the treatment conditions were heavily dominated by those who went to the individual condition (nine) rather than the group condition (one). The number of subjects in a relationship was significantly different (77.3% for the treated condition and 43.8% for the wait-list control condition), and the number who presented a significant other at pre-test and post-test was also significantly different (63.6% for the treated condition and 18.8% for the wait-list control condition). In addition it was found that the two conditions differed significantly on the duration of the alcohol problem (5.82 years for the treated condition and 2.56 years of the wait-list control condition). However, these differences were on a minority of dimensions and not on the critical dimensions of alcohol consumption. Table 4 summarizes the pre-test results of the various experimental measures. No significant differences were found on any of these five measures. Thus it was concluded that the subject pools were essentially similar and that differences at post-test could therefore be attributed to

Table 3

Characteristics of Clients in Treatment and Wait-list Groups:Hypothesis 2Social and Demographic Variables

Variable	Treated(n=22)	Wait-list Control(n=16)
Age(years)		
M	37.23	35.31
SD	9.73	7.93
Education(years)		
M	13.68	13.38
SD	2.12	2.09
**Duration		
M	5.82	2.56
SD	4.34	1.67
Sex		
Males	54.50%	37.50%
Females	45.50%	62.50%
*Relationship		
Couple	77.30%	43.80%
Single	22.70%	56.30%
Employment		
Employed	77.30%	87.50%
Unemployed	22.70%	12.50%
Family History		
Drinking Problem	54.50%	68.80%
No Drinking Problem	45.50%	31.30%
**Significant Other		
Present pre and post-test	63.60%	18.80%
Not present at both	36.40%	81.30%

* $p < .05$ ** $p < .01$

Table 4

Characteristics of Clients in Treatment and Wait-list Groups:Hypothesis 2Alcohol Consumption and Related Pre-Test Measures

<u>Variable</u>	<u>Treated(n=22)</u>	<u>Wait-list Control(n=16)</u>
Weekly Consumption		
M	28.20	25.44
SD	10.70	15.92
Peak Consumption		
M	9.75	8.69
SD	4.41	3.74
Life Satisfaction Problem Checklist		
M	27.50	25.36
SD	3.83	4.53
Profile of Mood States		
M	54.45	49.21
SD	55.18	41.89
Social Adjustment Scale		
M	1.82	2.00
SD	.46	.46
Michigan Alcoholism Screening Test		
M	13.25	13.21
SD	11.18	7.59

events after the pre-test, such as treatment or the lack of treatment.

Table 5 and 6 describe the demographic data of the entire subject sample of thirty-eight individuals. The nominal data in table 5 refers to those figures which are presented most meaningfully as whole numbers while the ratio data in table 6 refers to those with which means and standard deviations are more meaningfully used.

Thirty-eight individuals participated in this study. Eighteen were male and twenty female, twenty-four were involved in a stable relationship while fourteen were not, thirty-one were employed and seven were unemployed, and twenty-three reported a previous family history of alcohol consumption problems while fifteen indicated no previous alcohol problems in their family histories.

Independent collaboration through interviews with significant others was available for 66% of the clients on at least one testing occasion and 47% at both

Table 5

Nominal Demographic Data for Entire Study Sample

<u>Variable</u>		
Gender	18 male	20 female
Stable Relationship	24 involved	14 single
Employment	31 employed	7 unemployed
Family History of Alcohol Problems	23 alcohol prob. in family	15 no alcohol prob.in family

Table 6

Ratio Demographic Data for Entire Study Sample (n=38)

<u>Variable</u>	<u>Mean</u>	<u>Standard Deviation</u>
Age (years)	36.42	8.95
Education (years)	13.55	2.09
Duration of Problem (years)	4.45	3.80
Initial Contact Weekly Drinking (drink units)	28.08	12.61
Initial Contact Peak Day Drinking (drink units)	9.17	4.02
Pretest Interview Weekly Drinking (drink units)	26.97	13.14
Pretest Interview Peak Day Drinking	9.28	4.10
Life Satisfaction Scale	26.62	4.21
Profile of Mood States	52.29	49.51
Weissman Social Adjustment Scale	1.89	.46
Michigan Alcoholism Screening Test	13.24	9.73

pre-test and post-test. Significant other verification at both data points was available for 25% of those in the individual condition, 69% of those in the group condition, and 25% of those on the wait-list. All but one significant other validated the client's self-report of approximate consumption and the one difference of recalled consumption that arose was quickly resolved with additional clarifying data by the client.

An equal number of clients in each condition were treated by each therapist. A correlation matrix was created in which the variable of therapist was contrasted against all other pre-test in-treatment and post-test measures. Against this field of forty measures the variable of therapist was found to be significantly correlated to only one, that of duration of drinking problem ($r=.32$, $p<.029$) at pre-test, and no variables at either mid-treatment or post-test. Thus it was concluded that the effects of both therapists were essentially equivalent and that the samples for each therapist could be combined for later contrasts.

The mean age of the sample was 36.4 years, the average education was 13.5 years, the average duration of drinking problems prior to treatment was 4.5 years. At the initial contact telephone screening the mean alcohol consumption per week was 28.08 drink units per week with a highest daily consumption mean of 9.17 drink units (drink units are a common measure in the field, see Miller and Munoz 1982, one drink unit is equivalent to a glass of beer or wine, and slightly more than a one ounce glass of liquor).

At the time of the pre-test interview the mean weekly consumption in the study sample was 26.97 drink units with a mean peak day consumption of 9.28 drink units.

On the Life Satisfaction Scale at pre-test, a brief problem checklist with a potential range of eight to forty, the higher score indicating the greater capacity to master problems of daily living adequately, the mean was 26.62. On the Profile of Mood States, a profile of dominant moods within the most recent week in which the higher score indicates a generally more

negative mood, the mean score was 52.29. On the Weissman Social Adjustment Scale, a measure of general functioning in the environment in which a higher score indicates a lower level of community functioning, the mean was 1.89. On the Michigan Alcoholism Screening Test a device for assessing severity of alcohol problems in which a higher score indicated greater severity, the mean score was 13.24.

Since the Life Satisfaction Questionnaire was a clinical instrument developed and in use by the program at the time of the study but one on which reliability had never been assessed, a Cronbach's Alpha was calculated on the pre-test scores and found to be .84, a respectable level for a measurement device. It was also found that this scale was significantly correlated with the pre-test scores on the Profile of Mood States ($r = -.68$, significant probability beyond .001). It appears in fact that the Life Satisfaction, Profile of Mood States, and Weissman Social Adjustment Scale are all highly interrelated, and perhaps all are subcategories to a general functioning level.

The Michigan Alcoholism Screening Test scores average with this sample are somewhat lower at 13.24 than those of found in samples used in previous studies and reviewed in Chapter 3. This result suggests that this sample consists of early stage problem drinkers, perhaps a subject sample which experienced less severe drinking problems than was found in previous studies. This is in agreement with a comparison of drinking levels which indicates that the mean pre-treatment drinking level of clients in the program prior to this study was 35 drink units per week (Adams, 1983) as compared to the mean pre-test drinking level of the current sample of 26.97 drink units per week.

Section Two: Post-test Statistical Contrasts

This section describes the statistical contrasts carried out in order to assess the validity of the two hypothesis put forward in this study. The contrasts are presented in two subsections, relevant to each hypothesis.

(i) Contrasts Testing Hypothesis One

The first hypothesis suggested that treatment using a group format would be superior in terms of outcome to a treatment using an individual format.

In order to compare the group treatment to the individual treatment it was first necessary to establish that the two groups in the group treatment condition, which were carried out sequentially and using different therapists, were similar and could therefore be combined. Thus differences found in contrasts may be more easily attributed to the treatments themselves. Analysis of covariance was used in order to adjust for the initial or baseline differences on the various measures, that is each post-test contrast used the pre-test result on that particular measures as a covariate.

The results are as follows: for weekly alcohol consumption the two groups were not significantly

different ($F=.91$, $p<.36$, d.f. 1,12)¹, for peak day drinking consumption there was no significant difference ($F=1.97$, $p<.19$, d.f. 1, 12), for Life Satisfaction

Table 7

Hypothesis One: Post-test Analysis of Covariance Comparisons to Assess Similarity of Sub Groups:

Group One and Group Two of the Group Treatment Condition

<u>Variable</u>	<u>Group 1</u>	<u>Group 2</u>
Weekly Consumption	13.38 n=8	23.43 n=7
Peak Consumption	4.75 n=8	7.14 n=7
Life Satisfaction	29.67 n=3	26.80 n=5
Profile of Mood States	2.33 n=3	18.60 n=5
Social Adjustment Scale	1.34 n=3	1.86 n=5

¹Please note that cell sizes are presented in the summary tables along with the means tested for significance.

there was no significant difference ($F=2.41$, $p<.18$, d.f. 1, 5), for Profile of Mood state scores there was no significant difference ($F=1.72$, $p<.25$, d.f. 1, 5), and for Social Adjustment Scale scores there was no significant difference ($F=.90$, $p<.39$, d.f. 1, 5). These results are summarized in Table 7. It was concluded that the two groups of the group treatment condition were not significantly different and could thus be combined for contrast with the individual treatment condition.

The individual condition consisted of one group of seven who were not on the wait-list and another group of nine who were. An analysis of covariance was carried out on these two groups to establish that they were essentially similar and could therefore be combined for contrast with the group condition. This responds to possible criticism that being put on a wait list prior to treatment would itself have a significant impact on the subjects. On this series of contrasts the following results were produced: on weekly consumption of alcohol there was no significant difference

found ($F=.77$, $p<.40$, d.f. 1, 11), on peak daily consumption no significant difference was found

Table 8

Hypothesis One: Post-test Analysis of Covariance Comparisons to Assess similarity of Sub-groups:

Previously Wait-listed and Not Previously Wait-listed Subjects of the Individual Treatment Condition

<u>Variable</u>	<u>Wait-listed</u>	<u>Not Wait-listed</u>
Weekly Consumption	12.56 n=9	16.60 n=5
Peak Consumption	4.78 n=9	6.40 n=5
Life Satisfaction	26.25 n=8	31.60 n=5
Profile of Mood States	33.63 n=8	19.20 n=5
Social Adjustment Scale	1.96 n=8	1.58 n=5

($F=1.58$, $p<.24$, d.f. 1, 11), on the Life Satisfaction scores there was no significant difference found ($F=1.43$, $p<.26$, d.f. 1,10), on the Profile of Mood State scores there was no significant difference ($F=.59$, $p<.46$, d.f. 1,10), and on the Social Adjustment scores there was found to be no significant difference ($F=.22$, $p<.65$, d.f. 1,10). These results are summarized in Table 8. Thus it was concluded that there was no essential difference between those in the individual condition who had initially experienced the wait-list condition and those who had not. As a result these two sub-groups were combined into the overall individual condition for later contrasts with the group treatment condition.

The major contrasts for this hypothesis were tested next. The group condition was contrasted with the individual condition on the major variables. The results of these contrasts were as follows: no significant difference was found in contrasts using weekly alcohol consumption ($F=.43$, $p<.52$, d.f. 1, 26), peak daily consumption ($F=.11$, $p<.74$ d.f., 1, 26), Life Satisfaction scores ($F=.00$, $p<.96$, d.f., 1, 18), Profile of Mood State scores ($F=1.46$, $p<.24$, d.f., 1, 18), or on Social Adjustment Scores ($F=.70$, $p<.41$, d.f., 1, 18).

Table 9(a)

Major Contrasts of Hypothesis One:

Analysis of Covariance Contrasts Between Group Treatment and Individual Treatment

Post-Test

<u>Variable</u>	<u>Group Treatment</u>		<u>Individual Treatment</u>	
Weekly Consumption	18.07	n=15	14.00	n=14
Peak Consumption	5.87	n=15	5.36	n=14
Life Satisfaction	27.88	n=8	28.31	n=13
Profile of Mood States	12.50	n=8	28.08	n=13
Social Adjustment Scale	1.66	n=8	1.82	n=13

Table 9 (b)

Six Month Follow-up

<u>Variable</u>	<u>Group Treatment</u>	<u>Individual Treatment</u>
Weekly Consumption	18.38 n=13	16.08 n=13
Peak Consumption	6.08 n=13	5.23 n=13
Life Satisfaction	30.83 n=12	28.62 n=13
Profile of Mood States	8.50 n=12	22.08 n=13
Social Adjustment Scale	1.63 n=12	1.84 n=12

Six month follow-up data was also analyzed. On the weekly alcohol consumption data no significant difference was found ($F=.08$, $p<.78$, d.f. 1, 23). On the peak daily consumption no significant difference was found ($F=.19$, $p<.67$, d.f. 1, 23). On the Life Satisfaction Scale scores no significant difference was found ($F=1.35$, $p<.26$, d.f. 1, 22). No significant difference was found on Profile of Mood State scores ($F=.96$, $p<.34$, d.f. 1, 22), and no significant difference was found on Social Adjustment scores ($F=2.24$, $p<.13$, d.f. 1, 21). These results are summarized on Tables 9(a) and 9(b).

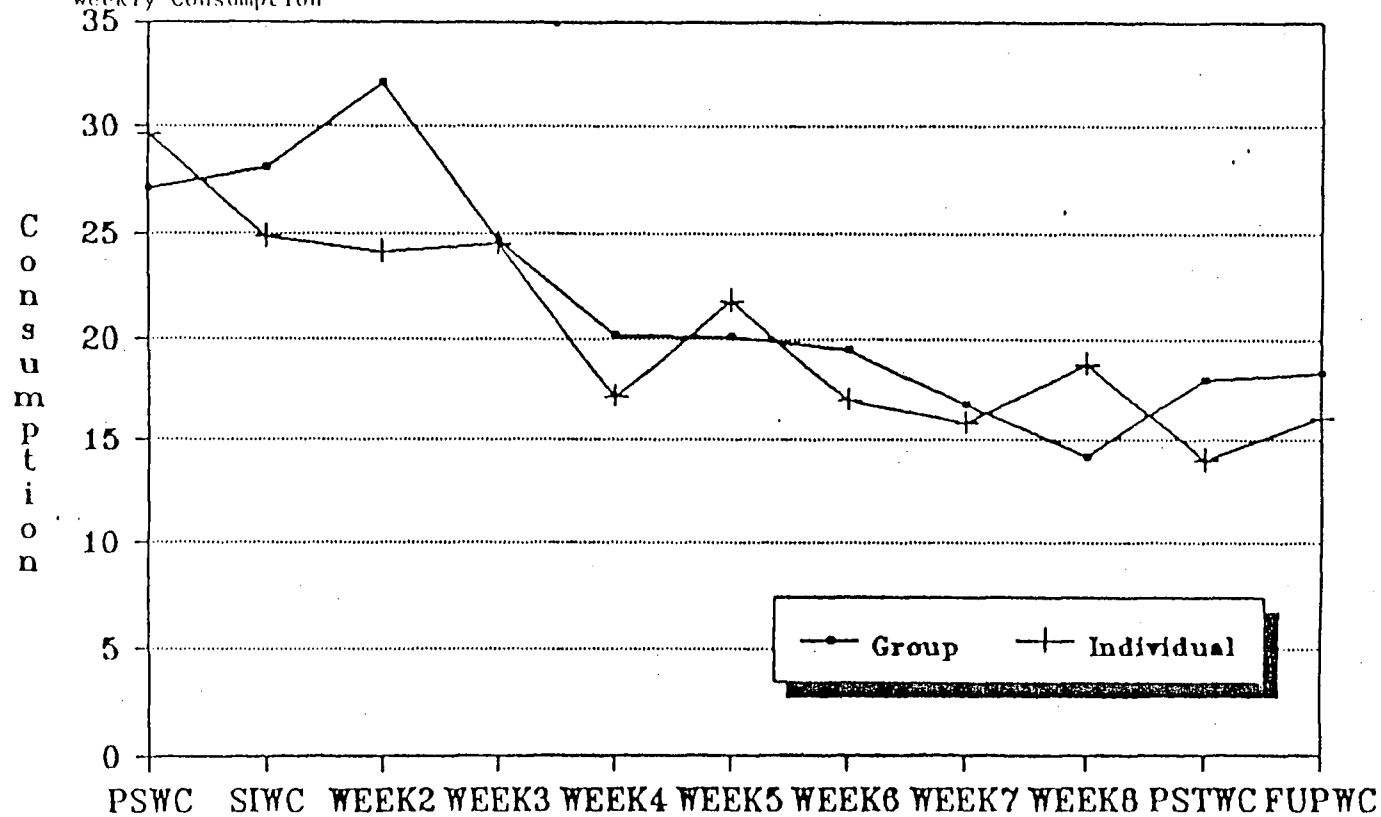
A plot of the changes in drinking levels over the course of treatment is included in Figure 3.

Thus it was concluded that there was no significant difference in outcomes between group and individual treatment formats. As a result the first hypothesis, that treatment using a group format is superior to treatment using an individual format, is not supported.

PSTWC - Post-Test Weekly
Consumption
FUPWC - Follow-up weekly
Consumption
PSWC - Phone Screening Weekly
Consumption
SIWC - Screening Interview
Weekly Consumption

FIGURE 3

Weekly Consumption



(ii) Contrasts Testing Hypothesis Two

The second hypothesis was that treatment using the program designed for this study was superior in outcome to no treatment. This required that the treatment conditions be combined in order to be contrasted to the untreated subjects. The no-treatment condition consisted of a wait-list of equal length to the treatment condition. Due to the requirement for independence of samples the subjects who were included in the wait-list condition and then placed in treatment were removed from the data of treatment conditions. This made the sample sizes of the treatment conditions fifteen for the group condition, seven for the individual condition, or a total of twenty two for the combined treatment condition. Two of the members of the individual condition dropped out prior to completion of treatment so that data were available on a total of twenty treated subjects. Sixteen subjects were assigned to the wait-list condition and data are available on all of them.

Contrasts of the treated versus the untreated subjects were made with respect to drinking levels at the post-test position. Analysis of covariance was used in order to adjust for the initial or baseline individual differences in drinking levels.

In order to combine the two groups of the group condition an initial analysis of covariance was carried out between the groups. This is reported in Table 10. It was found that no significant difference existed between these groups at post-test on either weekly alcohol consumption ($F=.19$, $p<.67$, d.f. 1, 11) or peak day alcohol consumption ($F=1.49$, $p<.25$, d.f. 1, 11).

An analysis of covariance using Life Satisfaction scores also revealed no significant difference ($F=2.41$, $p<.18$, d.f. 1, 5). Similarly with Profile of Mood States no significant difference was found ($F=1.72$, $p<.25$, d.f. 1, 5) as was also found to be the case for Social Adjustment Scores ($F=.90$, $p<.39$, d.f. 1, 5). Thus it was concluded that the two groups of the group treatment condition were essentially similar and could be combined.

Table 10

Hypothesis Two:

Post Test Analysis of Covariance Comparisons to Assess Similarity of Sub-Groups (with those previously on Wait-list deleted)

Group one and Group Two of the Group Treatment Condition

<u>Variable</u>	<u>Group 1</u>	<u>Group 2</u>
Weekly Consumption	13.38 n=8	22.33 n=6
Peak Consumption	4.75 n=8	7.17 n=6
Life Satisfaction	29.67 n=3	26.80 n=5
Profile of Mood States	2.33 n=3	18.60 n=5
Social Adjustment Scale	1.34 n=3	1.86 n=5

Next, contrasts were carried out between this combined group treatment (with the one person who also appeared in the wait-list removed) and the remaining subjects in the individual condition once those who also appeared in the wait-list condition were removed (leaving seven subjects). The purpose of these contrasts was to assess whether the group subjects and the individual subjects were similar so that they could be combined into a general treatment group for contrast with the wait-list condition.

The first analysis of covariance contrasted group and individual treatment subjects on weekly alcohol consumption and found no significant difference ($F=.03$, $p<.86$, d.f. 1, 16). Similarly a contrast using peak day alcohol consumption showed no significant difference ($F=.09$, $p<.77$, d.f. 1, 16), as did the contrasts using Life Satisfaction scores ($F=2.72$, $p<.13$, d.f. 1, 10), Profile of Mood State Scores ($F=55$, $p<.47$, d.f. 1, 10), and Social Adjustment scores ($F=.01$, $p<.94$, d.f. 1, 10). These results are summarized in Table 11. It was concluded that the treated subjects were similar

and could be combined in order to contrast with no-treatment wait-list control subjects.

Table 11

Post-test Analysis of Covariance to Assess Similarity of Sub-Groups Group Treatment and Individual Treatment Subjects

<u>Variable</u>	<u>Group Treatment</u>	<u>Individual Treatment</u>
Weekly Consumption	17.21 n=14	16.60 n=5
Peak Consumption	5.79 n=14	6.40 n=5
Life Satisfaction	27.88 n=8	31.60 n=5
Profile of Mood States	12.50 n=8	19.20 n=5
Social Adjustment Scale	1.66 n=8	1.58 n=5

Contrasts were then performed between the treated subjects (excluding those who had also appeared on the wait-list control group) and the non-treated subjects in order to assess the validity of the second hypothesis; that treatment using this program is superior in outcome to no-treatment.

The first analysis of covariance contrasted treated and non-treated subjects on weekly alcohol consumption and found a significant effect for treatment ($F=5.47$, $p<.03$, d.f. 1, 32). The mean weekly consumption level of the treated group was 17.05 drink units while that of the wait list was 25.81 per week. In the contrast using peak daily alcohol consumption a difference approaching significance was found between treated and non-treated subjects ($F=3.47$, $p<.07$, d.f. 1, 32). The mean peak daily consumption level of the treated sample was 5.95 drink units while that of the wait-list sample was 8.19 drink units on the highest day per week. These results are summarized in Table 12.

It was concluded that treatment using this program positively and significantly affects outcome.

Table 12

Major Contrasts of Hypothesis Two:

Analysis of Covariance Contrasts Between Treated and Wait-list Control Subjects (with subjects previously on wait-list deleted from the treated subject pool)

<u>Variable</u>	<u>Treated</u>		<u>Wait-list Control</u>	
*Weekly Consumption	17.05	n=19	25.81	n=16
Peak Consumption	5.95	n=19	8.19	n=16

*sig <.05

In a final contrast, in order to explore further the relationship between group treatment, individual treatment, and wait-list control, and orthogonal comparison was carried out between the three conditions.

For this comparison those subjects who appeared in the wait-list condition and later in a treatment condition were removed from consideration in the treatment condition to ensure independence of samples. As a result the sample size of the three conditions are 15 for the group condition, 5 for the individual condition, and 16 for the wait-list condition. Contrasts used only post-test weekly alcohol consumption and peak alcohol consumption. Results of these contrasts are reported in tables 13 (a), (b), and (c) and 14 (1), (b), and (c).

In a contrast of group and individual treatment conditions weekly alcohol consumption, no significant difference was found ($T=.07$, $p<.95$). In a contrast of group treatment and wait-list condition weekly alcohol consumption, no significant difference was found ($T=1.34$, $p<.19$). The contrast between individual treatment and the wait-list condition similarly found no significant difference ($T=1.03$, $p<.31$) nor did the contrast between the combined treatment conditions and the wait-list condition ($T=1.41$, $p<.17$).

A series of contrasts were also performed on peak day alcohol consumption. In contrasting group treatment and individual treatment no significant effect was found ($T=-.25$, $p<.80$), nor was a significant effect found in the contrast of group treatment and the wait-list condition ($T=-1.41$, $p<.17$), the contrast of individual treatment and wait-list condition ($T=-.75$,

Table 13 (a)

Means and Standard Deviations for the Three Experimental Conditions on Post-Treatment Weekly Alcohol Consumption

Condition	N	Mean	Standard Deviation
Group	14	17.21	14.95
Individual	15	16.60	8.14
Wait-list	16	25.81	21.08
Total	35	21.06	17.58

Table 13 (b)

Analysis of Variance for the Three Experimental Conditions
on Post-Treatment Weekly Consumption

Source	DF	Sum of Squares	Mean Squares	F	Significance of F
Between Groups	2	667.89	333.95	1.09	.35
Within Groups	32	9839.99	307.50		
Total	34	10507.89			

Table 13 (c)

Orthogonal Contrasts of Conditions on Post-Treatment
Weekly Consumption

Contrast	Value	Standard Error	T Value	DF	T Probability
Group vs. Individual Treatments	.61	9.14	.07	32	.95
Group vs. Wait- List Conditions	-8.60	6.42	-1.34	32	.19
Individual vs. Wait- List Conditions	-9.21	8.98	-1.03	32	.31
Treatment vs. Wait- List Conditions	-8.91	6.33	-1.41	32	.17

Table 14 (a)

Means and Standard Deviations for the Three Conditions
on Post-Treatment Peak Day Alcohol Consumption

Condition	N	Mean	Standard Deviation
Group	14	5.79	4.42
Individual	5	6.40	1.82
Wait-List	16	8.19	5.33
Total	35	6.97	4.66

Table 14 (b)

Analysis of variance for the three conditions on
Post-Treatment Peak Day Alcohol Consumption

Source	DF	Sum of Squares	Mean Squares	F	Significance of F
Between Groups	2	44.98	22.49	1.04	.37
Within Groups	32	693.99	21.69		
Total	34	738.97			

Table 14 (c)

Orthogonal Contrasts of Conditions on Post-Treatment
Peak Day Consumption

Contrast	Value	Standard Error	T Value	DF	T Probability
Group vs. Individual Treatments	-.61	2.43	-.25	32	.80
Group vs. Wait- List Conditions	-2.40	1.70	-1.41	32	.17
Individual vs. Wait- List Conditions	-1/79	2.39	-.75	32	.46
Treatment vs. Wait- List Conditions	-2.09	1.68	-1.25	32	.22

$p < .46$), or the combined treatments versus wait-list contrast ($T = -1.25$, $p < .22$).

The orthogonal contrasts indicate that when analyzed by analysis of variance no significant effects can be attributed to treatment, either one treatment over another, one treatment in comparison to the control condition, or combined treatments compared to the control condition.

It should be noted that the orthogonal contrast could only be carried out on an analysis of variance procedure, not on analysis of covariance which was used in the main analyses of this study (Manual: Statistical Package for the Social Sciences, Norusis, 1988). As a result the variance attributable to pre-test differences was not controlled, reducing post-test contrasts to non-significance and the orthogonal comparisons at post-test to non-significance.

In summary, therefore, it is concluded that there was no significant difference between group and individual formats in this study. There was, however, a significant difference between treated and control subjects, favoring the treated subjects, on weekly alcohol consumption. This effect size was significant at the $p < .05$ level on analysis of covariance.

When the data were reviewed to explore treatment effects further it was found that eleven in the individual condition decreased weekly alcohol consumption over the course of treatment by an average of 16.5 Standard Drink Units. At the same time, three persons increased their consumption by an average of 10.3 drinks. The maximum

decrease in drinking was 33 drinks while the maximum increase was 17 drinks.

In the group condition twelve persons decreased their weekly alcohol consumption by an average of 15 Drink Units and a maximum of 29 Units while two increased their alcohol consumption by an average of 16 Standard Drink Units and a maximum of 20 Units. One remained the same. It becomes clear that the overall tendency is toward decreasing consumption yet there is little difference between group and individual formats. From the above data it is clear that the majority benefitted from treatment, decreasing alcohol consumption an average of 15.7 Standard Drink Units by the post-test week as compared to the screening interview pre-test. A minority, five individuals, deteriorated over the course of treatment, increasing their consumption an average of 12.6 Units.

The program thus appears generally to be helpful, although it may be less helpful for a small minority.

Chapter 5

Discussion

Review of Hypotheses and Conclusions

Two hypotheses were proposed in this study. The first and central hypothesis was that treatment using a group format would be superior to treatment using an individual format. The second hypothesis was that treatment using the current treatment package would be superior to a wait list.

These hypotheses will be reviewed and discussed below, along with the results of the statistical contrasts. Limitations of the current study are discussed, followed by implications of this study for

counseling treatment and research. Suggestions for further research close the chapter.

Hypothesis One

The first hypothesis suggested that a group format treatment using the current treatment model would be superior in outcome to an individual format treatment. This is the central hypothesis of this study.

Based on a review of previous research into group treatment and individual treatment, experimental research into the impact of social involvement, and a review of the theoretically proposed impact of group treatment, it was proposed that there existed a unique and added impact from treatment which was delivered within a group format as compared to that delivered in an individual format. It was proposed that several therapeutic factors were present in a group treatment format that were not available in individual treatment. These therapeutic factors were: interaction, cohesiveness, and vicarious learning.

Statistical contrasts revealed that there were no statistically significant outcome differences between the group and individual format conditions on any of the measures of alcohol consumption or life functioning used in this study at either post-test following treatment or at the six month follow-up.

Thus, it was concluded that there was no support for the first hypothesis that treatment using a group format would be superior to treatment using an individual format.

Hypothesis Two

The second hypothesis proposed that treatment using the current model would produce a result superior to a wait-list control condition.

Statistical contrasts revealed that the differences between the treated and the wait-list control subjects was significant on the central measure, weekly alcohol consumption, and approaching significance on the second measure, peak daily alcohol consumption.

A treatment program had been designed specifically for this study using several different interventions over a compact time period. The interventions utilized drew on work from previous researchers and were arranged sequentially into a strong overall agenda. It was proposed that the resulting program would prove to be a successful treatment program since it incorporated components of previous successful programs, was carefully sequenced, and addressed both consumption and other lifestyle or health problems.

The mean weekly alcohol consumption was 17.05 for the treated subjects following eight weeks of treatment and 25.81 for the wait-list control subjects at the eight week post-test, a significant difference. The peak day consumption per week was found to be 5.95 drink units for the treated subjects following treatment and 8.19 drink units for the wait-list control group at post-test.

Thus it was concluded that the second hypothesis was supported and that the treatment model was effective.

Limitations of This Study

The current program was developed specifically for this study. One purpose in doing this was to develop program content which would be the same across both the group and individual format. In addition, improvements on previous programs were attempted. Along this view, the present program differed from previous efforts in its compactness, eight weeks as compared to the previous twelve week program at the research site, for example. It also placed a much higher emphasis on decision-making than other programs reviewed. This followed the researcher's perception that will and skill alone were insufficient for change and frequently faltered in the face of pressure. This faltering was construed to occur as a person may have resolved to reduce drinking without taking into consideration the emotional state that was associated with temptations to over-consume, the functions of alcohol consumption in meeting personal needs or becoming less aware of them, the lifestyle changes involved in reduced alcohol consumption, or many other factors. Thus the program sought to review and to complete more fully the process

of decision-making in a number of different ways in order to produce lasting change.

Several limitations of the current study may be suggested. One possibility refers to the fact that the current sample appeared to be somewhat less severe on the target problem of alcohol abuse than samples used in previous studies. It may be that this caused a 'floor effect' in that the degree of improvement was hampered by a limited available range from the initial problem drinking level, averaging 26.97 drink units per week, to the target safer drinking level of 15 to 18 drink units per week or less. The impact of this 'floor effect' on the outcome might be that any potential difference between group and individual format would be limited in potential range. Thus the difference in post-test means found, 18.07 drink units for the group treatment format versus 14.00 drink units for the individual treatment format was not significant (and also favors the individual format) but may have been so with a more severe subject population in terms of having greater pre-test consumption of alcohol. The

mean of previous populations at the test site was 35 drink units per week at intake.

A second possible problem of the current study is that the treatment may not have been powerful enough on some dimensions in order to fully develop the potential differences between the two formats. Gibb (1964) suggests that time and intense involvement is required in a group environment in order to develop and work through each of the various stages of trust formation, data flow, goal formation and social control. Schutz (in Dimock, 1970) similarly proposed that a high degree of involvement would be required to progress through his proposed stages of membership, struggle for control, cohesion, intimacy, and deeper self-disclosure. In an attempt to keep the time frames equivalent and to control for content little opportunity or time was provided for intense involvement with others in the current treatment program.

While this speaks to a requirement for a higher degree of treatment potency in groups, the work by Asch (1952), Festinger and Carlsmith (1959), Rokeach (1971),

Vinokur (1971) and others indicated that a large group influence effect can be expected with little attention to group formation and development, and in fact with little or no prior contact.

However, there remains the possibility that treatment potency is an important factor and should be investigated. The problem of maintaining a parallel content in both a group and an individual format in order to construct a meaningful contrast would invariably become much more difficult than in the current study however.

In order to remedy this situation it is possible to construct structured group exercises such as those suggested by Pfeiffer and Jones (1974) which would be mutually adaptable to both group and individual settings, would enhance personal awareness in each setting, and would in addition enhance group cohesion and trust in the group condition. A series of such exercises would thus develop the attributes of group treatment that are highly valued by practitioners and

theoreticians, and yet are somewhat weak in the present treatment.

In examining what may have influenced the outcome of this study it is quite possible that dimensions of relevant contrasts between the formats, the therapeutic components themselves, have not been accurately understood or clearly articulated within the field with the development of appropriate measures and experimental contrasts (Bloch et. al., 1981, Klein, 1983). The accurate description of these therapeutic components and the development of measures for the components would require a return to a pre-theoretical position of phenomenologically investigating the formats and thereby generating factors, rationales, measures, and critical experimental contrasts. This would be a highly desirable task of future research.

A fourth possible limitation of this study refers to the fact that pre-existing program guidelines required the diversion of about half the applicants to the current program to other agencies. These guidelines are essentially the same as those that exist in

similar clinics across North America and are designed to direct the more serious alcohol-addicted clients and mentally ill clients to more appropriate resources. However the net effect of this selectivity factor is that it may not be implied that this treatment program would be effective if it were to be used with these addicted or mentally ill clients. While the literature is inconsistent on this point, Heather and Robertson (1981) conclude that the current type of program is also effective with alcohol addicts.

The current problem drinker sample is also lower in severity of alcohol consumption than other samples used in prior research on non-addicted problem drinkers. As a result it remains possible that the program would be less effective with more severe but non-addicted problem drinkers. A replication of the current program with more severe clients may be required before this approach can be accepted as widely applicable.

A fifth possible limitation with the current study was that fewer clients applied for the program than

were expected. A replication of this study with more subjects would be advantageous in that statistical contrasts would be more powerful and significant differences could more easily emerge.

A sixth possible limitation refers to the significant difference between the test conditions on the variables of relationship, providing significant others, and problem duration. While these were the only significant differences found among the fourteen variables considered, it remains possible that this created a systematic bias in outcome. A sample with no pre-test significant differences would clearly be more desirable.

A seventh possible limitation of the current study which must be acknowledged concerns the change of the procedure mid-way through the study due to the lower than expected response to the request for subjects. It will be recalled that the subjects awaiting treatment were then placed in the wait-list prior to participation in their pre-assigned treatment condition, so that each of the treatment conditions and the wait-list

control condition could have the largest available number of subjects. Subjects returned to their pre-assigned treatment after the wait-list period rather than being randomly assigned to each of the two treatment conditions since they had already been informed about their treatment condition at the first telephone contact. Consequently it was required that those subjects who appeared in both the wait-list and the treatment conditions be removed from the data pool of one of the conditions for the purpose of data analysis. This was done so that they would not be compared with themselves. Several possible criticisms resulting from this strategy are considered.

On the positive side, it allowed data analysis with a larger subject pool than would have otherwise been the case. This enhances the replicability of the results in decreasing the chance effect of a few possibly uniquely different subjects. A greater subject pool also reduces the differences required

between the means of the treatment conditions for a statistically significant difference to be established.

A related criticism of the research procedure is that the assignment of only some subjects to a wait-list prior to treatment could introduce a systematic bias to this subgroup which would then influence outcomes. One procedure for addressing this is that wait-list subjects were not informed that they were placed on a wait-list condition. Thus their own perception would have been that their situation was similar to that of others around them. A second procedure taken to address this possibility was that the ex-wait-list group was contrasted to the other treatment subjects to investigate whether any differences related to being wait-listed emerged. As reported in the above data analyses it appears that a bias was not introduced by prior inclusion in the wait-list.

Another related possible criticism originates from the fact that assignment to the wait-list condition was not random but rather was applied to all clients available at a particular decision-making

point. A rejoinder to this criticism proposes that this action may not have violated the requirements of random assignment even though it was unusual. This rejoinder suggests that subjects randomly assigned to one condition may be reassigned to another condition if the variables of interest in initiating the random assignment in the first place are not utilized in deciding reassignment and the existence of possible systematic differences are investigated afterward.

An eighth possible criticism of the study is that compliance with each of the homework assignments was not assessed. Had resources been available, a measure of completion of each assignment would have been taken. Related to this is a criticism of the heavy reliance in this study of self-report of alcohol consumption. Despite the strong support for this method in the literature, concurrent blood test or breath analysis would have been very helpful. Thus a criticism can be offered that the treatment subjects did not reduce their consumption but simply stated that they had.

Implications of this Study
for Counselling Treatment Formats

Given the previously cited limitations, any implications from this research must be considered to be tentative.

The current program was based largely on a decision making approach to reducing problem alcohol consumption with particular attention to the functions of problem drinking and to blocks to decision-making with regard to problem drinking. The success of this program suggests that decision-making is a fruitful approach in treatment. Further research would provide an opportunity to test the impact of the decision-making components of this approach and is suggested. Thus, for counseling treatment, one implication is that group and individual formats are equally effective and thus group format may be chosen for many treatment needs. A second implication is that a treatment program which used decision-making as a central concept

proved to have a positive effect in reducing alcohol abuse and thus should be explore further.

The purpose of the current study was to investigate whether a group format was more effective in producing positive treatment outcomes than was an individual format. The literature reviewed revealed some methodological difficulties with previous group versus individual format contrasts. In addition, the literature suggests a general implication of equivalent impacts of the two treatment formats: group and individual. However the theoretical literature regarding group treatments reviewed and the empirical literature from social psychology suggested that group interventions would be more impactful than individual interventions. A treatment model known to be effective with a specific target, reducing alcohol consumption, was chosen as being well-suited to this contrast.

The current study found that both group and individual treatment formats were equally effective. This was true on a number of outcome variables as well as on the central dependent variables of alcohol

consumption. It is tentatively concluded from this study that the two approaches to treatment, group and individual format, are of equivalent impact, in terms of producing equally successful and lasting outcomes, when content is controlled. This conclusion implies that clinical decisions of whether or not to use group or individual format may then turn to other considerations. It remains possible that different types of individuals, or different types of problems are better responded to by one format or the other. For example, Orlinsky and Howard (1978) point out in their review of the group versus individual format research "...it stills seems plausible that some sorts of patients and some sorts of problems, might be treated more effectively on an individual basis, while for others group therapy of some kind would be the treatment of choice (p.310)."

Other considerations relevant to the choice of group or individual format include economic factors and efforts to maximize the number of clients that can be treated with the resources available. Taking these two

points into account it is suggested that group format is the format of choice.

The finding of a significant difference in outcome scores associated with treatment as compared to a wait-list control condition, compare favorably with results of previous structured treatments in this area (e.g. Miller & Munoz, 1982).

Implications of This Study for Future Research

As noted above, limitations in this study require that all implications be considered to be tentative.

Based on the theoretical literature on treatment groups it was proposed that a group format added several therapeutic factors that would be absent in an individual format. These were: interactions, cohesiveness, and vicarious learning.

The current study does not support the hypothesis that a group format, and thus these proposed factors

gave additional impact to a group intervention over an individual intervention when content was held constant.

Several possibilities follow from this result. It tentatively appears that there may be, after all, no general difference in impact between group and individual treatment formats. This is a most important conclusion to be derived from this study. While this outcome was unexpected and the results in this study must be held to be tentative given methodological problems, it is clear that the strongest implications of social psychology research are consistent with the presentation of the current treatment in supporting that this study produced the necessary and sufficient conditions for adequate interpersonal influence. It is also clear that the control of treatment content across formats in this study was exceptionally stringent. Thus, while methodological, statistical or sampling size objections can be raised and suggestions for greater power or greater control may be made, it is compelling to accept these results. This is particularly so in the context of previous less well-controlled studies which have, in sum, come to the same

conclusion. The present study was carefully constructed to exert more control over the previously most problematic variable of group versus individual format contrasts, that of treatment content. It appears that when this variable is controlled, outcome differences between the formats do not emerge. This conclusion must be tentative given the difficulties present in the current study but it is tempting to accept it as a valid hypothesis worthy of a less problematic replication given that it is in agreement with previous research.

If these results can be replicated, other research concerns then may come to the fore, such as the nature of the therapeutic components at work in each format and the processes by which these formats operate in order to create a therapeutic impact. Further research could also seek to enhance the intensity of the group and individual therapeutic experience while continuing to hold content constant. This would be difficult but perhaps not absolutely impossible. Additionally, research could explore the interaction of selected individual differences of personality, demographic, or

problem severity variables with treatment format to indicate optimal placement.

Suggestions for Future Research

Suggestions for future research include the following:

1. The therapeutic components as outlined by Yalom (1975) and Bloch et al. (1981) were felt to be conceptually less than satisfactory in the course of the current study. There are, for example, no indications if all therapeutic components proposed by Yalom occur in all groups, if all are essential to change, or even if the understanding of the nature of the factors themselves is accurate. In addition, few indications are provided in the research literature, other than some retrospective surveys of clients using the Yalom questionnaire, as to which factors are most important in what situations, or even whether some factors are important at all. This gap was felt to be particularly relevant in the current study when considering the apparent differences in available therapeutic factors

in the separate formats of group and individual treatment. It appears that the therapeutic factors as concepts grew out of theoretical work some years ago which was then converted to a quantitative scale by Yalom. However, it is unclear whether these theoretical concepts are accurate reflections of the actual therapeutic mechanisms that encourage personal change. In reviewing therapeutic factors as proposed to occur in group and individual interventions it was concluded that the two formats would differ only on cohesion, interaction, and vicarious learning, which were judged to be present in a group format but not present in an individual format. Thus it is suggested that a phenomenological analysis of therapeutic components be undertaken. It is further suggested that this be carried out both with individual and group formats. This research should attempt to develop a model of change and of factors which assist change which may be more accurate, detailed and richer than previous suggestions as it would be based on actual observations. These could then be used to produce measures and experimental contrasts of both factors and

alternative models of change, in order to enhance therapeutic impact.

2. A replication and extension of the current study is recommended with the following separate purposes in mind: (i) A replication with a subject sample which exhibits a more severe level of alcohol consumption problem. Firstly this would permit the efficacy of the current program to be tested with subjects more typical to other programs reviewed above. Secondly this would eliminate the 'floor effect' suggested above as reducing the range of possible change since subjects in the current study had generally lower consumption at the outset of the intervention. (ii) A replication with more subjects for greater power of the statistical contrasts would increase the potential significance of differences between the means of the different treatment conditions. Secondly, while the alteration of the experimental design mid-way through the treatment was not considered to be a "fatal" flaw, it was not, on the other hand, desirable. Replication without this design change would add to the significance of the research by increasing the elegance of the experimental design.

Thirdly, a larger study sample would be less likely to show significant chance differences at pre-test such as relationship, provision of a significant other, and problem duration, in the current sample. (iii) A replication and extension of the current program using involvement-enhancing techniques to test whether increasing involvement and intensity, features often cited as important by group treatment proponents, could be related to an increased additional impact to the group format. Methods for increasing these features are suggested above in the possible development of structured exercises such as those listed by Pfeiffer and Jones (1974). A drawback of this research suggestion is that the control of content becomes much more difficult when the focus shifts from a psycho-educational format as utilized in the current study to one dominated by the emerging process of interactions.

3. A further research suggestion is that the impact of the decision-making interventions used heavily in the current study be contrasted to the more basic alcohol consumption reduction skills training included in this program and the major intervention of many

previous programs. It was proposed that decision-making would add significantly to the basic treatment model but this was untested by the present research. Further research would also directly assess treatment compliance by measures related to each of the interventions as well as assessing alcohol consumption by blood or breath test as well as self-report.

4. A last suggestion for future research refers to the possibility that each of a group or individual format may have been more impactful for different individuals, based perhaps on personality, demographic, or problem severity features of the participants. Selected individual differences could be contrasted with format in a research design to explore this further.

Summary

The present study sought to contrast group and individual treatment formats while resolving a persistent problem of previous research, that of having widely different contents in each treatment format (or,

to a lesser degree, different treatment lengths, treatment sessions lengths, different types of clients, or different therapists in each format). The results of this study are tentative given several major limitations but suggest that treatment is successful with the target problem and with the program used, but that neither group nor individual treatments are superior to one another.

BIBLIOGRAPHY

- Adams, D. (1983). Program evaluation of the SKILLS Controlled Drinking Program. Vancouver, B.C.: Vancouver Health Department.
- ADES (Alcohol and Drug Education Service). (1978). Worth thinking about. Vancouver
- Addiction Research Foundation of Ontario. (1982). Risk-O-Graph
- Alden, L. (1980). Preventive strategies in the treatment of alcohol abuse: A review and a proposal. In P.O. Davidson & S.M. Davidson (Eds.), Behavioral medicine: Changing health lifestyles. NY: Brunner/Mazel.
- Alden, L. (1983). An Ounce and a Half of Prevention. Horizon Research and Evaluation.
- Asch, S. (1952). Social psychology. New York: Prentice Hall.
- Aughenbaugh, L. (1968). Group versus individual counselling: A junior college study. Dec. (From ERIC Abstracts).
- Baekland, F. (1977). Evaluation of treatment methods in chronic alcoholism. In B. Kissin & H. Beglieter (Eds.), The biology of alcoholism, Vol. 5, New York: Plenum.
- Baekland, F. & Lundwall, L. (1975). Dropping out of treatment: a critical review. Psychological Bulletin, 82, 5, 738-783.
- Bednar, R. & Kaul, P. (1978). Experiential group research: current perspectives. (In) S. Garfield & A. Bergin (Eds.), Handbook of Psychotherapy and Behavioral Change, (2nd ed.) New York: Wiley.
- Bem, D. (1967). Self perception: An alternative interpretation of the cognitive dissonance phenomena. Psychological Review, 74, 3, 183-200.
- Berry, R. & Boland, J. (1977). The economic cost of alcohol abuse. New York: Free Press.

- Bixenstine, V. & Abascal, J. (1985). Another test of the effect of group composition on member behavior change. Journal of Clinical Psychology, 41, 5, 620-628.
- Bloch, S., Crouch, E. & Reibstein, J. (1981). Therapeutic factors in group psychotherapy. Archives of General Psychiatry, 38, 519-526.
- Boudin, H. (1972). Contingency contracting as a therapeutic tool in the deceleration of amphetamine use. Behavior Therapy, 3, 604-608.
- Brownell, K. (1978). Therapist and group contact as variables in the behavioral treatment of obesity. Journal of Consulting and Clinical Psychology, 46, 3, 593-594.
- Butler, T. & Fuhrman, A. (1983). Curative factors in group therapy: A review of the recent literature. Small Group Behavior, 14, 2, 131-142.
- Calder, P., & Kostyniuk, Al (1989) Personality profiles of children of alcoholics. Professional Psychology: Research and Practice, 20, 6, 417-418.
- Campbell, D. & Stanley J. (1963). Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally.
- Canada Department of National Health and Welfare. (1981). Special report on alcohol statistics. Ottawa.
- Clark, D., Eckenfels, E. Daugherty, S. & Rives, C. (1985). Alcohol use patterns of first year medical students: Development of shared norms. Alcoholism: Clinical and Experimental Research, 9(1), 38-44.
- Collins, R., Parks, G. & Marlatt. (1985). Social determinants of alcohol consumption: The effects of social interaction and model status on the self-administration of alcohol. Journal of Consulting and Clinical Psychology, 53, 2, 189-200.
- Cook, D. (1985). Craftsman versus professional: Analysis of the controlled drinking controversy. Journal of Studies on Alcohol, 45, 5, 433-442.

- Corsini, R. & Rosenberg, B. (1955). Mechanisms of group psychotherapy: processes and dynamics. Journal of Abnormal Social Psychology. 51, 406-411.
- Cruz, A., Hardwood, H. & Kristiansen, P. (1981). Economic costs to society of alcohol and drug abuse and mental illness. Alcohol, Drug Abuse, and Mental Health Administration. October.
- DeRisi, W.J. & Butz, G. (1975). Writing behavioral contracts: A case simulation practice manual. Champaign, IL: Research Press.
- Dimock, H. (1970). Factors in Working with Groups. Montreal Sir George Williams University.
- Dinkmeyer, D., & Munro, J. (1971) Group Conseling: Theory and Practice. Itasca Ill: Peacock.
- Dion, K. (1970). Why do groups make riskier decisions than individuals? In L. Berkowitz (Ed.), Advances in Experimental Social Psychology, Volume five. New York: Academic Press.
- Doroff, D. (1977) Group psychotherapy in alcoholism. (In) Kissin & Begleiter (Eds.) The Biology of Alcoholism, Vol., 5: The Chronic Alcoholic. 235-258.
- Dorn, F. (1984). The social influence model: A cautionary note on counselling psychology's warm embrace. Journal of Counselling Psychology, 31, 111-115.
- D'Zurilla, & Goldfried, M. (1973). Problem-solving and behaviour modification. Journal of Abnormal Psychology, 78, 197-226.
- Eiser, J. & Van Der Plight, J. (1984). Attitudinal and social factors in adolescent smoking: In search of peer group influence. Journal of Applied Social Psychology, 14, 4, 348-363.
- Eiser, J. (1985). Smoking: The social learning of an addiction. Journal of Social and Clinical Psychology, 34, 446-457.
- Elal-Lawrence, G., Slade, P. & Dewey, M. (1987). Treatment

- and follow-up variables discriminating abstainers, controlled drinkers, and relapsers. Journal of Studies on Alcohol, 48, 1, 39-46.
- Erikson, V., & Whitely, J. (1980) Developmental Counseling and Teaching, Monterey, Ca: Brooks-Cole.
- Etringer, B., Gregory, V. & Lando, H. (1984). Influence of group cohesion on the behavioral treatment of smoking. Journal of consulting and Clinical Psychology, 52, 6, 1080-1086.
- Festinger, L. & Carlsmith, J. (1959). Cognitive consequences of forced compliance. Journal of Abnormal and Social Psychology, 58, 203-210.
- Gawain, S. (1979). Creative visualization. New York: Bantam Books.
- Gerard, D. & Saenger, G. (1966). Outpatient treatment of alcoholism: A study of outcome and its determinants. Toronto: University of Toronto Press.
- Gerard, D., Saenger, G. & White, R. (1962). The abstinent alcoholic. Archives of General Psychiatry, 6, 83-95.
- Gibb, Jack R. (1964) Climate for Trust Formation. In L.P. Bradford, J.R. Gibb, and K.D. Benne (Eds.), T-Group Theory and Laboratory Method. New York: Wiley.
- Glaser, A. (1982). Drive theory of social facilitation: A critical reappraisal. British Journal of Social Psychology, 21, 265-282.
- Glaser, W. (1965). Reality therapy. New York: Harper & Row.
- Guerin, B. & Innes, J. (1982). Social facilitation and social monitoring: A new look at Zajonc's mere presence hypothesis. British Journal of Social Psychology, 31, 7-18.
- Harari, H. (1983). Point-counterpoint: The social psychology of clinical practice and in clinical practice. Journal of Social and Clinical Psychology, 1, 2, 173-192.

- Heather, N. & Robertson, I. (1981). Controlled Drinking. London: Methuen.
- Heather, N. & Robertson, I. (1982). So you want to cut down your drinking. Edinburgh: Scottish Health Education Group.
- Heather, N, Whitton, B. & Robertson, I. (1986). Evaluation of a self help manual for media-recruited problem drinkers: Six month follow-up results. British Journal of Clinical Psychology, 25. 29-34.
- Hill, W. (1975). Further consideration of therapeutic mechanisms in group therapy. Small Group Behaviour, 6, 4, 421-429.
- Ivey, A., & Simek-Downing, L. (1980) Counseling and Psychotherapy: Skills, Theory, and Practice, New Jersey: Prentice-Hall.
- Janis, I. and Mann, L. (1977). Decision making. New York: Free Press.
- Kingsley, R. & Wilson, G. (1977). Behaviour therapy for obesity: A comparative investigation of long-term efficacy. Journal of Consulting and Clinical Psychology, 45, 2, 288-297.
- Kissin, B. (1977). Theory and practice in the treatment of alcoholism. In B. Kissin and H. Begleiter (Eds.), The biology of alcoholism: Volume Five. New York: Plenum.
- Klein, R. (1983). Group Treatment Approaches. In M. Hersen, A. Kazdin, and A. Bellack (Eds.), The Clinical Psychology Handbook. New York: Pergamon.
- Kovel, J. (1976). A complete guide to therapy. New York: Pantheon.
- Kurtz, E. (1982) Why A. A. works: The intellectual significance of Alcoholics Anonymous. Journal of Studies on Alcohol. 43, 1, 38-80.
- Lake, E. & Arkin, R. (1985). Reactions to objective and

- subjective interpersonal evaluation: The influence of social anxiety. Journal of social and Clinical Psychology, 3, 2, 143-160.
- Leiberman, M. (1980). Group methods. In F. Kanfer and A. Goldstein (Eds.), Helping people change, (2nd Ed.). New York: Pergamon.
- Leibson, I. (1972). Theories of behaviour and the social control of alcoholism. Social Psychiatry, 7, 47-52.
- Leonard, K., Dunn, N. & Jacob, T. (1983). Drinking problems of alcoholics: Correspondence between self and spouse reports. Addictive Behaviors, 8, 369-373.
- Linehan, M. (1979). Group versus individual assertion training. Journal of Consulting and Clinical Psychology, 47, 5, 1000-1002.
- Long, L. & Cope, C. (1980). Curative factors in a male felony offender group. Small Group Behavior, 11, 4, 389-398.
- Luborsky, L., Singer, B. & Luborsky, L. (1975). Comparative studies of psychotherapies: Is it true that everyone has won and all must have prizes? Archives of General Psychiatry, 32, 995-1007.
- Maisto, S., Sobell, L. & Sobell, M. (1979). Comparison of alcoholics' self reports of drinking behavior with reports of collateral informants. Journal of Consulting and Clinical Psychology, 47, 1, 106-112.
- Maisto, S., Sobell, M. & Sobell, L. (1982). Reliability of self-reports of low ethanol consumption by problem drinkers over 18 months of follow-up. Drug and Alcohol Dependency, 9, 273-278.
- Maisto, S. & O'Farrell, T. (1985). Comments on the validity of Watson et al.'s "Do alcoholics give valid self-reports?". Journal of Studies on Alcohol, 46, 5, 447-450.
- Marlatt, A. (1980). Relapse prevention: A self-control program for the treatment of addictive behaviors. University of Washington.

- Marlatt, A. & Gordon, J. (1980). Determinants of relapse: Implications for the maintenance of behaviour change. In P. Davidson & S. Davidson (Eds.), Behaviour medicine: Changing health lifestyles. New York: Brunner Mazel.
- McKenna, T., & Pickens, R. (1981) Alcoholic children of alcoholics. Journal of Studies on Alcohol. 42, 11.
- McNair, D., Lorr, M. & Droppleman, L. (1981). The profile of mood states. San Diego: Educational and Industrial Testing Service.
- McKay, M., Davis, M. & Fanning, P. (1981). Thoughts and feelings: The art of cognitive stress intervention. Richmond CA: New Harbinger.
- Meichenbaum, D. & Genest, M. (1980). Cognitive behavior modification: An integration of cognitive and behavioral methods. In F. Kanfer & A. Goldstein (Eds.), Helping people change, (2nd Ed.). New York: Pergamon.
- Midanek, L. (1982). The validity of self reported alcohol consumption and alcohol problems: A literature review. British Journal of Addiction, 77, 357-382.
- Miller, W.R. (1978). Behavioural treatment of problem drinkers: A comparative outcome study of three controlled drinking therapies. Journal of Consulting and Clinical Psychology, 46, 74-86.
- Miller, W. & Baca, L. (1983). Two year follow up of bibliotherapy and therapist-directed controlled drinking training for problem drinkers. Behavior Therapy, 14, 441-448.
- Miller, W., Gribkov, C., & Mortell, R. (1981). Effectiveness of a self-control manual for problem drinkers with and without therapist contact. International Journal of the Addictions.
- Miller, W., Hedrick, K. & Taylor, C. (1983). Addictive behaviors and life problems before and after behavioral treatment of problem drinkers. Addictive Behaviors, 8, 403-412.

- Miller, W. & Hester, R. (1980). Treating the problem drinker: Modern approaches. In W. Miller (Ed.) Addictive Behaviors. New York: Pergamon.
- Miller, W. & Joyce, M. (1979). Prediction of abstinence, controlled drinking, and heavy drinking outcomes following behavioural self-control training. Journal of Consulting and Clinical Psychology, 47, 773-775.
- Miller, W. & Munoz, R. (1982). How to control your drinking. (2nd Ed.). Albuquerque: University of New Mexico Press.
- Miller, W., Pachacek, T. & Hamburg, S. (1981). Group behaviour therapy for problem drinkers. The International Journal of the Addictions. 16, 829-839.
- Miller, W.R. & Taylor, C. (1980). Relative effectiveness of bibliotherapy, individual, and group self-control training in the treatment of problem drinkers. Addictive Behaviours, 5, 13-24.
- Miller, W.R., Taylor, C.A. & West, J.C. (1980). Focused versus broad spectrum behaviour therapy for problem drinkers. Journal of Consulting and Clinical Psychology, 48, 5, 590-601.
- Moscovici, S. & Personnaz, B. (1980). Studies in social influence: Minority influence and conversion behavior in a perceptual task. Journal of Experimental Social Psychology, 16, 270-282.
- Mugny, G. (1984). Compliance conversion and the Asch paradigm. European Journal of Social Psychology, 14, 353-368.
- Murphy, T., Pagans, R. & Marlatt, A. (1986). Lifestyle modification with heavy alcohol drinkers: Effects of aerobic exercise and meditation. Addictive Behaviors, 11, 2, 175-186.
- Natali, R., and Cvitkovic, J. (1977). Group psychotherapy with alcoholics. (In) Group Counselling and Group Psychotherapy with Rehabilitation Clients. M. Seligman (Ed.), Springfield Ill: Charles C. Thomas.

- Norasis, P. (1988). Manual: Statistical Package for the Social Sciences. LaJolla: Ca.
- Oei, T. & Jackson, P. (1983). Social skills and cognitive behavioural approaches to the treatment of problem drinking. Journal of Studies on Alcohol, 43, 5, 532-546.
- Ohlsen, M. (1977). Group Counseling (2nd ed.), New York: Holt Rinehart & Winston.
- Orford, J.A. (1973). A comparison of Alcoholics whose drinking is totally uncontrolled and those whose drinking is mainly controlled. Behaviour Research and Therapy, 1, 5, 65-76.
- Orford, J. & Keddle, A. (1986). Abstinence or controlled drinking in clinical practice: Indications at initial assessment. Addictive Behaviors, 11, 71-86.
- Orford, J. & Keddle, A. (1986). Abstinence or controlled drinking in clinical practice: A test of the dependence and persuasion hypothesis. British Journal of Addiction, 81, 495-504.
- Orlinsky, D. & Howard, K. (1978). The relation of process to outcome in psychotherapy., In Sol Garfield & Allen Bergin (Eds.), Handbook of Psychotherapy and Behavior Change, (2nd Ed.). New York: Wiley.
- Pattison, E.M. (1979). The selection of treatment modalities for the alcoholic patient. In Mendelson & Mello (Eds.), The diagnosis and treatment of alcoholism. New York: McGraw-Hill.
- Pattison, E., Sobell, M. & Sobell, L. (1977). Emerging concepts of alcohol dependence. New York: Springer.
- Paulus, P. (1983). Group influence on individual task performance. In P. Paulus (Ed.), Basic group processes. New York: Springer, Verlag.
- Personnaz, B. (1981). Study in social influence using the spectrometer method: Dynamics in the phenomena of conversion and covertness in perceptual responses. European Journal of Social Psychology, 11, 431-438.

- Pfeiffer, J., & Jones, J., (1974) A Handbook of Structured Experiences for Human Relations Training, Volumes I to IV. La Jolla, Ca.: University Associates.
- Polich, J. (1982). The validity of self-reports in alcoholism research. Addictive Behaviours, 7, 123-132.
- Polich, J., Armor, D. & Braiker, H. (1980). The Course of alcoholism: Four years after treatment. New York: Wiley.
- Pomerleau, O.F., Pertschuk, M. Adkins, D. & Brady, J.P. (1978). A comparison of behavioural and traditional treatment methods for middle-income problem drinkers. Journal of Behavioural Medicine, 1, 187-200.
- Rabow, J., Fowler, F., Bradford, D., Hofeller, M. & Shibuya, Y. (1966). The role of social norms and leadership in risk taking. Sociometry, 29, 16-27.
- Rockwell, W. (1976). Individual versus group: Brief treatment outcome in a university mental health service. Journal of the American College Health Association, 24, 4, 186-190.
- Rokeach, M. (1971). Long range experimental modification of values, attitudes, and behavior. American Psychologist, 26, 453-459.
- Sanchez-Craig, M. (1982). Teaching controlled drinking and abstinence to early-stage problem drinkers: Self control strategies for secondary prevention. Unpublished Report. Addiction Research Foundation.
- Sanchez-Craig, M., Annis, H., Bornet, A. & MacDonald, K. (1984). Random assignment to abstinence and controlled drinking evaluation of a cognitive-behavioural program for problem drinkers. Journal of Consulting and Clinical Psychology, 52, 3, 390-403.
- Sanchez-Craig, M. & Lei, H. (1986). Disadvantages of imposing the goal of abstinence on problem drinkers: An empirical study. British Journal of Addiction, 81, 505-512.
- Saxe, L., Dougherty, D., Esty, K. & Fine, M. (1983). The

- effectiveness and costs of alcoholism treatment. Office of Technology Assessment. Health Technology Case Study 22, March, 1983.
- Scissons, E. & Njaa, L. (1973). Systematic desensitization of test anxiety: A comparison of group and individual treatment. Journal of Consulting and Clinical Psychology, 41, 3, 470.
- Selzer, M. (1971). The Michigan Alcoholism Screening Test. American Journal of Psychiatry, 127, 12, 89-94.
- Selzer, M. (1980). Alcoholism and alcoholic psychosis. In H. Kaplan, A. Freeman & B. Sadock (Eds.), Comprehensive textbook of psychiatry, (3rd Ed.). Baltimore, MD: Waverly.
- Shaw, M. (1985). Group dynamics: The psychology of small group. New York: McGraw Hill.
- Shulman, L. (1979). The Skills of Helping Individuals and Groups. Itasca, Ill.: Peacock.
- Sobell, L. & Sobell, M. (1977). Validity of self-reports in three populations of alcoholics. Journal of Counseling and Clinical Psychology, 46, 901-907.
- Solomon, S. & Harford, T. (1984). Drinking norm versus drinking behavior. Alcoholism: Clinical and Experimental Research, 8, 5, 460-466.
- Strong, S. (1978). Social psychological approach to psychotherapy research. In Sol Garfield & Allen Bergin (Eds.), Handbook of psychotherapy and behavior change, (2nd Ed.). New York: Wiley.
- Tanford, S. & Penrod, S. (1984) Social influence model: a formal integration of research on majority and minority influence processes. Psychological Bulletin. 95, 2, 189-225.
- Teger, A. & Pruitt, D. (1967). Components of group risk taking. Journal of Experimental Social Psychology, 3, 189-205.

- Tharp, R. & Wetzel, R. (1969). Behaviour Modifications in the Natural Environment. New York: Academic Press.
- Trice, H. & Roman, P. (1970). Delabeling, relabeling and Alcoholics Anonymous. Social Problems, 17, 538-546.
- Turner, J. (1985). Social categorization and the self-concept: A social cognitive theory of group behavior. Advances in Group Processes, 2, 77-121.
- Turner, J. & Oakes, P. (1986). The significance of the social identity concept for social psychology with reference to individualism, interactionism, and social influence. British Journal of Social Psychology, 25, 237-252.
- Vinokur, A. (1971). Review and theoretical analysis of the effect of group processes upon individual and group decisions involving risk. Psychological Bulletin, 4, 231-251.
- Vogler, R.E., Weissbach, T.A., Compton, J.V. & Martin, G.T. (1977). Integrated behaviour change technique for problem drinkers in the community. Journal of Consulting and Clinical Psychology, 45, 267-279.
- Wallach, M. & Kogan, N. (1964). Risk taking: A study in cognition and personality. New York: Holt, Rinehart, Winston.
- Wallach, M & Kogan, N. (1965). Group risk taking. Journal of Experimental Social Psychology, 1, 1-19.
- Watson, C., Tilleskjor, C., Hoodecheck-Schow, E., Pucel, J. Y. Jacobs, L. (1984). Do alcoholics give valid self-reports? Journal of Studies on Alcohol, 45, 344-348.
- Watson, C. (1985). More reasons for a moratorium - a reply to Maisto and O'Farrell. Journal of Studies on Alcohol, 46, 5, 450-453.
- Willems, E. & Clark, R. (1969). Dependence of the risky shift on instructions: A replication. Psychological Reports, 25, 811-814.
- Williams, G., Aitken, S. & Malin, H. (1985). Reliability of

self-reported alcohol consumption in a general population survey. Journal of Studies on Alcohol, 46, 3, 223-227.

- Yalom, I. (1975). The Theory and Practice of Group Psychotherapy. New York: Basic Books.
- Zajonc, R. (1980). Comprescence. In P. Paulus (Ed.), Psychology of group processes. New Jersey: Lawrence Erlbaum.
- Zimbardo, P., Ebbesen, E. & Maslach, C. (1977). Influencing attitudes and changing behaviors, (2nd Ed.). Reading, MA: Addison-Wesley.

SKILLS CONTROLLED DRINKING PROGRAM

Date_____

Dear Doctor:

_____ has applied to enter the SKILLS drinking Program of the Vancouver Health Department. The objective of this program is to help clients achieve control of their alcohol consumption. Control is defined as a maximum of 3 drink units (one drink unit is equivalent to four ounces of wine for example) per day with at least two days of abstinence per week, and no interference with daily functioning.

In most cases clients in the controlled drinking program choose to continue drinking alcohol though in moderate amounts. It is therefore very important to identify clients who for health reason should not drink at all. We are asking for your help.

The accompanying "medical clearance" form is designed to provide us with the medical information we need to counsel clients appropriately. Clients can be accepted into the program only if this information is provided by their doctor. An information sheet regarding the medical conditions of particular concern in those who consume alcohol is also provided for your convenience.

Thank you for your help. If you wish to discuss any aspect of the program please feel free to contact one of us.

S. Marion, M.D.
Medical Consultant

Doug Adams
Co-Ordinator/Supervisor

MEDICAL CLEARANCE STATEMENT

Name of Client_____

The above client has been evaluated by me on (date)_____ with regard to medical conditions that may be caused or exacerbated by alcohol, particularly those mentioned on the accompanying information sheet and with regard to medications that may interact adversely with alcohol. In my opinion this client (check one or more as appropriate)

- () has no medical condition caused or exacerbated by alcohol and is taking no medication that interacts adversely with alcohol
- () has a relative contraindication to alcohol due to the following medical condition(s)_____

or due to the following medication(s) which he is taking (name & dose)

CNS Depressants:_____ Antihypertensives: _____

Anti-Coagulants:_____ NSAIDS or salicylates: _____

Anti-diabetic: _____ Other: _____

However he/she may consume alcohol in moderation within the following restriction _____

- () has an absolute contraindication to alcohol consumption and should not drink alcohol at all because_____

To my knowledge there are no other medical conditions present and no other medications being taken that are relevant to determining safe levels of alcohol consumption for this client.

Name of Physician_____

Address _____

Signature _____

Date _____

SKILLS CONTROLLED DRINKING PROGRAM
VANCOUVER HEALTH DEPARTMENT

Medical Conditions¹ and Medications¹ of Concern
in those who Consume Alcohol

Central Nervous System:	blackouts, cerebellar ataxia ² , migraine
Peripheral Nervous System:	Peripheral neuropathy ²
Neurological Conditions:	history of alcohol-related myopathy
Endocrine/metabolic System:	diabetes mellitus
Respiratory System:	severely compromised respiratory function (with risk of respiratory failure)
Cardiovascular System:	arrhythmias, hypertension
Gastro-intestinal System:	alcoholic cirrhosis ² , history of severe acute alcoholic liver disease ² , other chronic liver disease, peptic ulcer disease gastritis, malnutrition, history of pancreatitis
Musculoskeletal System:	
Psychological System:	depression, personality change or marked behavioural changes with alcohol consumption psychosis
Medications:	sedatives or medications having sedation as a side-effect, anticoagulents, beta blockers, cephalosporins, disulfiram, hypoglycemics, metronidazole, nonsteroidal anti-inflammatory drugs, anticonvulsants, salicylates

- NOTES: 1) This list is not intended to be exhaustive
- 2) Major physical disability due to past alcohol consumption is generally an absolute contraindication to alcohol consumption

WORRIED ABOUT
YOUR DRINKING?

The Vancouver Health Department offers an experimental controlled drinking program for those beginning to experience alcohol related problems. If you wish to develop a healthier lifestyle and reduced use of alcohol -

and speak to a program counsellor. If the program is suitable for you, 12 sessions can be arranged free of charge. Day or evening times are available. All enquiries are confidential.

CONTROLLED DRINKING PROGRAM

CONSENT FORM

I am aware that the experimental Controlled Drinking Program is run as part of the Prevention Program in the Vancouver Health Department. The program involves new treatment techniques currently undergoing development. The purposes of the present program are to assess the treatment methods and to assist participants in reducing and controlling their use of alcohol.

I understand that SKILLS is a self-management program and that the client is responsible for using the techniques which the program offers. As there is an ongoing evaluation of this program, the client agrees to fill out questionnaires and participate in follow-up. Time required for meetings and questionnaires will likely amount to 1 1/4 hours on 8 occasions.

I understand that the program or those working in the program are not responsible if the client is involved in a driving accident or any other personal or legal problems arising from drinking. The program is free and no consultant will accept a fee.

If at any time a client feels that participation in the program is not helpful he or she may withdraw without any cost or loss of availability of other Vancouver Health Department services. Decisions to withdraw should be discussed with the counsellor.

Client Signature _____

Witness: _____

Counsellor Signature: _____

Date: _____

CITY OF VANCOUVER HEALTH DEPARTMENT

The Validity of Self-Report Data

As with much of the research on controlled drinking, the use of self-report data from clients on alcohol consumption has been affected by lay perceptions and the common assumption of the disease model school of thought, often as espoused through Alcoholics Anonymous.

One of the contentions of this model is that people with drinking problems will minimize and deny their drinking consumption. This is drawn from the conjectures on the development of the 'disease' and is a model which has remained more or less untested until recently. However, it has gained a great deal of belief in its truthfulness, particularly by professionals trained in the traditional perspectives and interventions in alcohol problems, and by clients of traditional methods by professionals or by self-help groups. It has reached a level where it is perceived as integral to the traditional alcohol treatment model. Due

to this, contrary evidence may be perceived as either a special case or mistaken, and only supporting evidence may be easily acknowledged. In the short review below the primary focus will be on exploring the validity of self-report data.

Midanek (1982) suggests that the denial hypothesis, that problem drinkers will lie and conceal their consumption, is without an adequate empirical base and that it leads to a tendency to discredit or obscure contradictory data. She notes two outcomes from the denial hypothesis of discrepancies in drinking reports by collateral and problems drinkers: (1) if the collateral report is higher it is taken as the more valid and the alcoholic is considered to be a "denier." The veracity of the collateral report is unquestioned. Or (2) if the collateral reports lower consumption than the problem drinker, the collateral loses credibility and the lesser reported amount is attributed to lack of contact, for example within a drinking environment, or the alcoholic is considered to be carrying out 'hidden' or 'concealed' drinking.

"This investment in the 'denial' explanation is so strong that even when one is faced with contradictory evidence...the preferred resolution is to somehow disavow the criteria; as though the ends define the means." (p.377)

Cook (1985) touches on the tenacity with which the denial hypothesis and other beliefs are held in the face of contradictory evidence. Cook notes that proponents of traditional treatment and beliefs in alcohol problem treatment are reflecting a considerably different training and method of understanding than that used by behavioral researchers. Differentiating these by the terms 'craftsman' and 'professional' Cook points out that the education of the craftsman is an indoctrination to the viewpoint of a master craftsman and the goal is to learn to think and act as do their mentors. Citing Kalb and Propper in 1976, he notes that adherence to traditional concepts, resistance to alternative viewpoints, and refusal to question their own premises when contradictory evidence appear creates an intense loyalty and unity. These traditional concepts are exemplified by attitudes such as

"...alcoholism is a disease that cannot be cured, that it is essentially something one is rather than something one has, and that the only way to avoid the problems and symptoms of being an alcoholic is to abstain from drinking alcohol totally. Drinking, by definition, cannot be controlled by alcoholics (Cook, 1985, p.44)." This craftsman "knows" this to be true through the following route. "One simply observes alcoholic drinkers over a period of time, and it becomes obvious that they can't control their drinking unless they permanently and totally abstain. Getting them to abstain is in large part a matter of convincing them that they have an incurable disease that can be controlled only through total abstinence" (p.440). Opposed to this on almost every level is the behavioral scientist who is taught to query all premises and is taught multiple contradictory viewpoints. This professional is also taught to gather evidence and test premises, and to rely on the results of these tests to adjust and modify premises. The craftsman is concerned with the individual alcoholic and is dismayed and mistrustful when presented with group data and statistics from the professional which obscures the

uniqueness of the individual case but is presented, at least in part, to make some statements useful to the individual case by the behavioral scientist.

There has been a protracted discussion in the literature around the validity of client's self-report of drinking data. While this is an issue with any type of behavioral self-report, it has been particularly contentious with alcohol problems due to the current disease model and on Jellinek's gamma alcoholic classification as articulated in media and by Alcoholics Anonymous followers. Briefly the model states that "...the alcoholic is seen as a denier who will minimize his/her reports of consumption and problems associated with alcohol." (Midanek, 1982, p.358) That is, he or she will minimize and deny the problem, and must be expected to lie about the amount of drinking. The model is inconsistent in that it accepts as truth when high problem consumption is reported or when abstinence is reported consistently. Learning theory, on the other hand, accepts compliance, such as accurate self-reporting, as an issue to be specifically addressed but not one that is insurmountable.

The second Rand report (Polich et al., 1980, Polich, 1982) assessed the validity of self-reports of alcohol consumption in perhaps the most rigorous assessment to date to specifically address this contentious problem. They randomly and without warning selected a subset (n=632) of their follow-up interviews and asked for self-report, collateral interview, and concurrent physiological assessment, reportedly sensitive enough to ascertain approximate consumption levels for the previous day. Overall, they found a small amount of under-reporting but that this was standard across all intensities of drinking and was not found to be significantly higher among the more intense drinkers. Polich (1982) briefly reviewed previous studies, pointing out that these indicated that "...self-reports of concrete drinking problems are not biased. In fact, the number of over-reports frequently equals or exceeds the number of under-reports" (p.131). Regarding Polich's own study, a four year follow-up of treated individuals, Polich concludes that "...self-reports of concrete drinking problems are generally valid..." (p.131) and that outcome classification was "...not substantially affected by errors in consumption

reports..." (p.123) and further recommends multiple outcome measures. He also notes a higher error rate for collateral reports than for self-reports and that the ex-patients were overall "...more likely to report symptoms and other types of alcohol problems" (p.131).

Miller (Miller & Baca, 1983, Miller, Hedrick, & Taylor, 1983) has utilized breath tests, blood tests, and collateral interview, indicating only that the results confirmed self-reports. Sanchez-Craig (Sanchez-Craig & Lei, 1986) reports using neuropsychological testing, gamma-glutamyl transpeptidase blood tests, and collateral reports, indicating that these validated self-reports. Orford and Keddle (1986) used collateral information available for 32 of their 46 clients and found it to be in high agreement with self-report although self-report tended to be somewhat more severe and that there were "...no instances of outright, unresolved disagreement between collateral and client accounts" (p.500). Vogler (1977) found self-reports validated by collateral information, finding very high concordance rates, as

did Gerard and Saenger (1966) and Elal-Lawrence et al. (1987).

Maisto, Sobell, & Sobell (1979) contrasted self and collateral reports and found them to be highly correlated (all beyond $p < .01$). They concluded that self-reports are generally a reliable source of drinking information. Maisto et al. (1982) found a high consistency between subject and collateral reports of post treatment drinking.

Midanek (1982) reviewed much of the literature concerning the validity of self-reports of drinking behavior. In contrast with breath and blood tests she found that self-report is generally accurate with a common and consistent tendency toward a low level of under-reporting, and a significant positive correlation of collateral and self-report was generally found.

Leonard et al. (1983) assessed collateral agreement not on concrete drinking behaviors but on a general assessment device for diagnosing drinking problems; the Michigan Alcoholism Screening Test.

Results of collateral and self-report were found to be correlated significantly with each other ($p < .01$) with, also, a significant tendency for the self to under-report symptoms to at least some degree in contrast to collaterals ($p < .05$). Leonard et al. conclude that there is "...general support for the validity of self-reports by alcoholics." (p.373) Disagreement was found to be systematic in under-reporting only on alcohol problem items on the MAST and not systematic on help-seeking, legal social and work problems, or marital problem items.

Williams et al. (1985) reviewed literature on reliability with several populations and found that with problem drinkers "...satisfactory levels of reliability or validity on self-reported consumption measures..." (p.223) were found. While the author's central purpose was to provide reliability on a general population survey device (using a sample of 1395), they reported contrasts of measures that are useful to the current discussion. They found the measure reliable in that consumption at baseline was strongly related to consumption at a fourteen and a twenty-eight day

retest. Concurrent validity was assessed by contrast of the target measure, a recall measure, with the external criteria of a daily drink diary and averaged at a correlation of $r=.80$, although this was somewhat lower with reference to beer consumption alone among the three beverage alcohol products assessed. Predictive validity was assessed on test-retest agreement and was highly correlated, again with beer figures being the lowest correlation. Essentially the outcome of this study is that self-report by members of the general population, with the usual component of problem drinkers, are found to be highly related across different methods of measurement and different time periods.

Watson et al. (1984) have contended that self-reports of drinking by alcoholics are unreliable. Their study involved follow-up of 100 treated diagnosed alcoholics and found the reports of ex-patients and collaterals to be significantly and positively related. It was also found that ex-clients tended to report significantly lower amounts than collaterals on six of ten time periods, with no significant difference on the remaining four of ten, and further that a tendency

existed to report higher than collaterals for the lower general consumption range, and lower than collaterals for the higher general consumption range. The results were interpreted as indicating that alcoholics minimize and that those with the most severe problems minimize the most. The judgements of collaterals, whose only requirement was that they were "...likely to know his whereabouts and condition..." (p.344) on ten different occasions over eighteen months, were apparently accepted as valid and fully accurate without regard to possible bias, interference of affect toward the subject, a low or sporadic degree of contact, or the possible difference in the location of the drinking and the location of the collateral. The collateral may be a significant other with strong feelings about the client's drinking, or more distant and uninvolved with the client, that is, possibly inaccurate by being too close, or possibly inaccurate by being too far away. The central result of positive and significant correlation of ex-client and collateral report was largely ignored.

Maisto et al. (1985) responded critically to the Watson study, citing an inadequate and selective literature review to support their hypothesis, avoidance of major contradictory studies, and misinterpretation of non-supportive data such that it appeared supportive of their contentions. They also criticize the research design and lack of specificity of a number of factors. Primarily, however, Maisto and O'Farrell (1985) propose that Watson et al. are imbedded in a perceptual model which contends as a primary assumption that person with problems related to alcohol consumption will minimize and deny as a necessary aspect of the disease of alcoholism. Watson (1985) cites for example, the current lay theory of alcoholism in regard to the "...dubious reputation of alcoholics for candidness..." (p.344). Beyond these criticism Maisto et al. further support self-reports as "...the most sensitive and accurate data possible about drinking and related behaviors..." (p.450) and as a good general research tool in the area of drinking problem interventions and strongly suggest that one research study should not endanger this useful tool.

In a response to Maisto and O'Farrell, Watson (1985) points out that the curvilinearity hypothesis (that more severe under-reporting occurs as the severity of the problem is greater) in one study cited was based on client under-reporting drinking days, over-reporting limited drinking days, and that agreement on abstinent days was generally found. Again he presumes that collateral reports are the accurate benchmark, and form the baseline of contrast for client reports. In addition this is not a contrast of linearity-curvilinearity using ratio level numbers appropriate to such an assertion, but is instead based on three loosely ordinal states. It is also true that the only one of these three open to easy awareness by both parties is non-drinking or abstinence, accuracy of the others can only be established by counting or by breathalyzer. Watson (1985) avoided quantitative data on consumption in his study in order to address the overall maladjustment of the alcoholic as well as to avoid interference by unique tolerance level differences. This is a weak defense in that he could easily have collected quantitative and subjective adjustment data and the

quantified data would have been an extremely useful objective criterion of his major variables of adjustment.

Heather et al. (1986) criticize Watson's results insofar as they reduce the validity of self-report as a research tool, noting that there is no reason in the research to suspect that a moderate tendency to under-report consumption will be systematically different across treatment conditions. Polich's (1982) study supports this point as well.

It seems clear that the controversy over the validity of self-report originated in, and is maintained by reference to the traditional beliefs of the disease model, particularly with reference to the concepts of "denial" and "hidden" or "concealed" drinking. It also appears clear that this belief is relatively impermeable to contradictory evidence, as noted by Cook (1985) and Midanek (1982). However, and thirdly, it appears from the reports reviewed above that self-reports by alcoholics, by problem drinkers, and by the general population are closely related to

true consumption and would not be expected to differ systematically between different treatment conditions. Thus as a research tool, self-reports may generally be accepted as valid for group contrast purposes, and may be preferred since, in addition to being valid, self-reports are measures of the target behavior, the client has the best access to the required data base (i.e. his own drinking behavior), accurate monitoring may be easily taught, the method is inexpensive and relatively easy to carry out, and since the data yielded is at a ratio level and can be manipulated by any of a variety of statistical procedures.

Client Self-Monitoring Card

<u>Date</u>	<u>Time</u>	<u>Type of Drink</u>	<u>Amount</u>	<u>Situation</u>

The Michigan Alcoholism Screening Test (MAST) Selzer, 1980

M A S T (Selzer Scale) 1980

	YES	NO
0. Do you enjoy a drink now and then?	_____	_____
1. Do you feel you are a normal drinker? (by normal we mean you drink less than or as much as most other people.)	_____	_____
2. Have you ever awakened the morning after some drinking the night before and found that you could not remember a part of the evening?	_____	_____
3. Does your wife, husband, a parent, or other near relative ever worry or complain about your drinking?	_____	_____
4. Can you stop drinking without a struggle after one or two drinks?	_____	_____
5. Do you ever feel guilty about your drinking?	_____	_____
6. Do friends and relatives think you are a normal drinker?	_____	_____
7. Are you able to stop drinking when you want to?	_____	_____
8. Have you ever attended a meeting of Alcoholics Anonymous (AA)?	_____	_____
9. Have you gotten into physical fights when drinking?	_____	_____
10. Has your drinking ever created problems between you and your wife, husband, a parent, or other near relative?	_____	_____
11. Has your wife, husband, (or other family members) ever gone to anyone for help about your drinking?	_____	_____
12. Have you ever lost friends because of your drinking?	_____	_____
13. Have you ever gotten into trouble at work or school because of drinking?	_____	_____

	YES	NO
14. Have you ever lost a job because of drinking?	_____	_____
15. Have you ever neglected your obligations, your family or your work for 2 or more days in a row because you were drinking?	_____	_____
16. Do you drink before noon fairly often?	_____	_____
17. Have you ever been told you have liver trouble? Cirrhosis?	_____	_____
18. After heavy drinking have you ever had delirium tremens? (D.T.'s) or severe shaking or heard voices or seen thing that really weren't there?	_____	_____
19. Have you ever gone to anyone for help about your drinking?	_____	_____
20. Have you ever been in a hospital because of your drinking?	_____	_____
21. Have you ever been a patient in a psychiatric hospital or on a psychiatric ward of a general hospital where drinking was part of the problem that resulted in hospitalization?	_____	_____
23. Have you ever been arrested for drunk driving, driving while intoxicated, or driving under the influence of alcoholic beverage? If Yes, how many times? _____	_____	_____
24. Have you ever been arrested or taken into custody, even for a few hours, because of other drunk behavior? If Yes, how many times? _____	_____	_____

* 5 points for delirium tremens

** 2 points for each arrest

The Life Satisfaction Questionnaire

SKILLS, Vancouver Health Department

1980

CLIENT NO. _____ LIFE SATISFACTION Dates: _____

Session 1 _____

Post _____

Time 1 _____

Time 2 _____

1 Year _____

To what extent do you feel satisfied with the following areas of your life?
Please tick the appropriate response.

- | | | | | | | <u>Please Comment</u> |
|--|------------|-----------|----------|--------|------------|-----------------------|
| 1. <u>Intimate Relationships</u> | 1 | 1 | 1 | 1 | 1 | _____ |
| | not at all | minimally | somewhat | mostly | completely | |
| 2. <u>Job or Career</u> | 1 | 1 | 1 | 1 | 1 | _____ |
| | not at all | minimally | somewhat | mostly | completely | |
| 3. <u>Ability to Cope with Stress or Anxiety</u> | 1 | 1 | 1 | 1 | 1 | _____ |
| | not at all | minimally | somewhat | mostly | completely | |
| 4. <u>Ability to Cope with Depression</u> | 1 | 1 | 1 | 1 | 1 | _____ |
| | not at all | minimally | somewhat | mostly | completely | |
| 5. <u>Social Relationships or Support</u> | 1 | 1 | 1 | 1 | 1 | _____ |
| | not at all | minimally | somewhat | mostly | completely | |
| 6. <u>Self-Esteem (Feeling Good About Self)</u> | 1 | 1 | 1 | 1 | 1 | _____ |
| | not at all | minimally | somewhat | mostly | completely | |

7. Ability to Express Anger

Please Comment

1 1 1 1 1
not at all minimally somewhat mostly completely

8. Ability to Express Feelings

1 1 1 1 1
not at all minimally somewhat mostly completely

Have any major life events occurred that may be affecting the manner in which you responded to the above statements? Yes ____

No ____ If yes, specify:

The Profile of Mood States (POMS)

McNair, D., Lorr, M., Droppleman, L.

copyright 1981

Educational and Industrial Testing Service

San Diego California, 92107

Social Adjustment Scale - Self Report
(SAS-SR)

Weissman M. 1974

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Medicine
Department of Psychiatry
Depression Research Unit
904 Howard Avenue, Suite 2A
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October, 1978

INFORMATION ON THE SOCIAL ADJUSTMENT SCALE - SELF REPORT (SAS-SR)

Development

The SAS-SR derives from the Social Adjustment Interview. The details of the development of the Social Adjustment Scale (Interview) can be found in The Depressed Woman: A Study of Social Relationships, by M.M. Weissman, Ph.D., and Eugene S. Paykel, M.D., University of Chicago Press, Chicago, 1974.

The details of the development of the SAS-SR and its relation to the interview version, its reliability and validity can be found in a paper by M.M. Weissman and Sallye Bothwell, "Assessment of Social Adjustment by Patient Self-Report," Archives of General Psychiatry 33: 1111-1115 (September) 1976. Norms in different psychiatric populations and in a community sample can be found in : M.M. Weissman, B.A. Prusoff, W.D. Thompson, P.S. Harding, and J.K. Myers, "Social Adjustment by Self Report in a Community Sample and in Psychiatric Outpatients," Journal of Nervous and Mental Disease 166, 5, 317-326, 1978.

Administration

The SAS-SR is a paper and pencil test completed by the subject. It can also be completed by a relative or significant other about the subject. A research assistant should be available to initially instruct the subject about the format, answer questions, and to check for completion.

Scoring

There are two scoring systems: 1) an overall adjustment score which is a sum of all items divided by the number of items actually scored; 2) a role area mean score which is a sum of the items in a role area divided by the sum of the items actually scored in that area.

The role areas are as follows:

<u>ROLE AREA</u>	<u>ITEM NUMBER</u>
Work Outside Home	1-6
Work at Home	7-12
Work as a Student	13-18
Social and Leisure	19-29
Extended Family	30-37
Marital	38-46
Parental	47-50
Family Unit	51-53
Economic	54

Study Patient Number Patient Initials 21 SAS Sr-Patient P.1 of 6
Depression Research Unit

1 2 3 4 5 6 7

Date _____

Rater's Initials: _____ Computer Date _____ (3-13)

SOCIAL ADJUSTMENT SELF REPORT QUESTIONNAIRE

We are interested in finding out how you have been doing in the last two weeks. We would like you to answer some questions about your work, spare time and your family life. There are no right or wrong answers to these questions. Check the answers that best describes how you have been in the last two weeks.

WORK OUTSIDE THE HOME

Please check the situation that best describes you.

I am 1 ____ a worker for pay 4 ____ retired (14)
2 ____ a housewife 5 ____ unemployed
3 ____ a student

Do you usually work for pay more than 15 hours per week?

1 ____ YES 2 ____ NO (15)

Did you work any hours for pay in the last two weeks?

1 ____ YES 2 ____ NO (16)

Check the answer that best describes how you have been in the last two weeks.

1. How many days did you miss from work in the last two weeks?

- 1 ____ No days missed.
- 2 ____ One day.
- 3 ____ I missed about half the time.
- 4 ____ Missed more than half the time but did make at least one day.
- 5 ____ I did not work any days.
- 6 ____ On vacation all of the last two weeks.

If you have not worked any days in the last two weeks, go on to Question 7.

2. Have you been able to do your work in the last 2 weeks?

- 1 ____ I did my work very well. (18)
- 2 ____ I did my work well but had some minor problems.

- 3 ☐ I needed help with work and did not do well about half the time.
- 4 ☐ I did my work poorly most of the time.
- 5 ☐ I did my work poorly all the time.
3. Have you been ashamed of how you do your work in the last 2 weeks?
- 1 ☐ I never felt ashamed. (19)
- 2 ☐ Once or twice I felt a little ashamed.
- 3 ☐ About half the time I felt ashamed.
- 4 ☐ I felt ashamed most of the time.
- 5 ☐ I felt ashamed all the time.
4. Have you had any arguments with people at work in the last 2 weeks?
- 1 ☐ I had no arguments and got along very well. (20)
- 2 ☐ I usually got along well but had minor arguments.
- 3 ☐ I had more than one argument.
- 4 ☐ I had many arguments.
- 5 ☐ I was constantly in arguments.
5. Have you felt upset, worried, or uncomfortable while doing your work during the last 2 weeks?
- 1 ☐ I never felt upset. (21)
- 2 ☐ Once or twice I felt upset.
- 3 ☐ half the time I felt upset.
- 4 ☐ I felt upset most of the time.
- 5 ☐ I felt upset all of the time.
5. Have you found your work interesting these last two weeks?
- 1 ☐ My work was almost always interesting. (22)
- 2 ☐ Once or twice my work was not interesting.
- 3 ☐ Half the time my work was uninteresting.
- 4 ☐ Most of the time my work was uninteresting.
- 5 ☐ My work was always uninteresting.

WORK AT HOME - HOUSEWIVES ANSWER QUESTIONS 7-12. OTHERWISE, GO ON TO QUESTION 13.

7. How many days did you do some housework during the last 2 weeks?
- 1 ☐ Every day. (23)
 - 2 ☐ I did the housework almost every day.
 - 3 ☐ I did the housework about half the time.
 - 4 ☐ I usually did not do the housework.
 - 5 ☐ I was completely unable to do housework.
 - 8 ☐ I was away from home all of the last two weeks.
8. During the last two weeks, have you kept up with your housework? This includes cooking, cleaning, laundry, grocery shopping, and errands.
- 1 ☐ I did my work very well. (24)
 - 2 ☐ I did my work well but had some minor problems.
 - 3 ☐ I needed help with my work and did not do it well about half the time.
 - 4 ☐ I did my work poorly most of the time.
 - 5 ☐ I did my work poorly all of the time.
9. Have you been ashamed of how you did your housework during the last 2 weeks?
- 1 ☐ I never felt ashamed. (25)
 - 2 ☐ Once or twice I felt a little ashamed.
 - 3 ☐ About half the time I felt ashamed.
 - 4 ☐ I felt ashamed most of the time.
 - 5 ☐ I felt ashamed all the time.
10. Have you had any arguments with salespeople, tradesmen or neighbors in the last 2 weeks?
- 1 ☐ I had no argument and got along very well. (26)
 - 2 ☐ I usually got along well, but had minor arguments.
 - 3 ☐ I had more than one argument.
 - 4 ☐ I had many arguments.
 - 5 ☐ I was constantly in arguments.
11. Have you felt upset while doing your housework during the last 2 weeks?
- 1 ☐ I never felt upset. (27)
 - 2 ☐ Once or twice I felt upset.
 - 3 ☐ Half the time I felt upset.

- 4 ☐ I felt upset most of the time.
- 5 ☐ I felt upset all of the time.
12. Have you found your housework interesting these last 2 weeks?
- 1 ☐ My work was almost always interesting. (28)
- 2 ☐ Once or twice my work was not interesting.
- 3 ☐ Half the time my work was uninteresting.
- 4 ☐ Most of the time my work was uninteresting.
- 5 ☐ My work was always uninteresting.
-

FOR STUDENTS

Answer Questions 13-18 if you go to school half time or more. Otherwise, go on to Question 19.

What best describes your school program? (Choose one)

- 1 ☐ Full Time (29)
- 2 ☐ 3/4 Time
- 3 ☐ Half Time

Check the answer that best describes how you have been the last 2 weeks.

13. How many days of classes did you miss in the last 2 weeks?
- 1 ☐ No days missed. (30)
- 2 ☐ A few days missed.
- 3 ☐ I missed about half the time.
- 4 ☐ Missed more than half time but did make at least one day.
- 5 ☐ I did not go to classes at all.
- 8 ☐ I was on vacation all of the last two weeks.
14. Have you been able to keep up with your class work in the last 2 weeks?
- 1 ☐ I did my work very well. (31)
- 2 ☐ I did my work well but had minor problems.
- 3 ☐ I needed help with my work and did not do well about half the time.
- 4 ☐ I did my work poorly most of the time.
- 5 ☐ I did my work poorly all the time.

15. During the last 2 weeks, have you been ashamed of how you do your school work?
- 1 ____ I never felt ashamed. (32)
 - 2 ____ Once or twice I felt a little ashamed.
 - 3 ____ About half the time I felt ashamed.
 - 4 ____ I felt ashamed most of the time.
 - 5 ____ I felt ashamed all the time.
16. Have you had any arguments with people at school in the last 2 weeks?
- 1 ____ I had no argument and got along very well. (33)
 - 2 ____ I usually got along well, but had minor arguments.
 - 3 ____ I had more than one argument.
 - 4 ____ I had many arguments.
 - 5 ____ I was constantly in arguments.
 - 8 ____ Not applicable; I did not attend school.
17. Have you felt upset at school during the last 2 weeks?
- 1 ____ I never felt upset. (347)
 - 2 ____ Once or twice I felt upset.
 - 3 ____ Half the time I felt upset.
 - 4 ____ I felt upset most of the time.
 - 5 ____ I felt upset all of the time.
 - 8 ____ Not applicable; I did not attend school.
18. Have you found your school work interesting these last 2 weeks?
- 1 ____ My work was almost always interesting. (35)
 - 2 ____ Once or twice my work was not interesting.
 - 3 ____ Half the time my work was uninteresting.
 - 4 ____ Most of the time my work was uninteresting.
 - 5 ____ My work was always uninteresting.

SPARE TIME - EVERYONE ANSWER QUESTIONS 19-27.

Check the answer that best describes how you have been in the last 2 weeks.

19. How many friends have you seen or spoken to on the telephone in the last 2 weeks?

- 1 ____ Nine or more friends. (36)

- 2 ☐ Five to eight friends.
- 3 ☐ Two to four friends.
- 4 ☐ One friend.
- 5 ☐ No friends.
20. Have you been able to talk about your feelings and problems with at least one friend during the last 2 weeks?
- 1 ☐ I can always talk about my innermost feelings. (37)
- 2 ☐ I usually can talk about my feelings.
- 3 ☐ About half the time I felt able to talk about my feelings.
- 4 ☐ I usually was not able to talk about my feelings.
- 5 ☐ I was never able to talk about my feelings.
- 8 ☐ Not applicable; I have no friends.
21. How many times in the last two weeks have you gone out socially with other people? For example, visited friends, gone to movies, bowling, church, restaurants, invited friends to your home?
- 1 ☐ More than 3 times. (38)
- 2 ☐ Three times.
- 3 ☐ Twice.
- 4 ☐ Once.
- 5 ☐ None.
22. How much time have you spent on hobbies or spare time interest during the last two weeks? For example, bowling, sewing, gardening, sports, reading?
- 1 ☐ I spent most of my spare time on hobbies (39)
almost every day.
- 2 ☐ I spent some spare time on hobbies some of the days.
- 3 ☐ I spent a little spare time on hobbies.
- 4 ☐ I usually did not spend any time on hobbies but did watch TV.
- 5 ☐ I did not spend any spare time on hobbies or watching TV.

23. Have you had open arguments with your friends in the last 2 weeks?

1 ____ I had no arguments and got along very well. (40)

2 ____ I usually got along well but had minor arguments.

3 ____ I had more than one argument.

4 ____ I had many arguments.

5 ____ I was constantly in arguments.

8 ____ No applicable; I have no friends.

24. If your feelings were hurt or offended by a friend during the last two weeks, how badly did you take it?

1 ____ It did not affect me or it did not happen. (41)

2 ____ I got over it in a few hours.

3 ____ I got over it in a week.

5 ____ It will take me months to recover.

8 ____ Not applicable; I have no friends.

25. Have you felt shy or uncomfortable with people in the last 2 weeks?

1 ____ I always felt comfortable. (42)

2 ____ Sometimes I felt uncomfortable but could relax
after a while.

3 ____ About half the time I felt uncomfortable.

4 ____ I usually felt uncomfortable.

5 ____ I always felt uncomfortable.

8 ____ Not applicable; I was never with people.

26. Have you felt lonely and wished for more friends during the last 2 weeks?

1 ____ I have not felt lonely. (43)

2 ____ I have felt lonely a few times.

3 ____ About half the time I felt lonely.

4 ____ I usually felt lonely.

5 ____ I always felt lonely and wished for more friends.

27. Have you felt bored in your spare time during the last 2 weeks?

1 ____ I never felt bored. (44)

2 ____ I usually did not feel bored.

3 ____ About half the time I felt bored.

- 4 ☐ I usually felt bored.
5 ☐ I was constantly bored.

Are you a Single, Separated, or Divorced Person not living with a person of opposite sex; please answer below:

- 1 ☐ YES, Answer questions 28 & 29. (45)
2 ☐ NO, go to question 30.

28. How many times have you been with a date these last 2 weeks?

- 1 ☐ More than 3 times. (46)
2 ☐ Three times.
3 ☐ Twice.
4 ☐ Once.
5 ☐ Never.

29. Have you been interested in dating during the last 2 weeks. If you have not dated, would you have liked to?

- 1 ☐ I was always interested in dating. (47)
2 ☐ Most of the time I was interested.
3 ☐ About half of the time I was interested.
4 ☐ Most of the time I was not interested.
5 ☐ I was completely uninterested.

FAMILY

Answer Questions 30-37 about your parents, brothers, sisters, in laws, and children not living at home. Have you been in contact with any of them in the last two weeks?

- 1 ☐ YES, Answer questions 30-37.
2 ☐ NO, Go to question 36.

30. Have you had open arguments with your relatives in the last 2 weeks?

- 1 ☐ We always got along very well. (48)
2 ☐ We usually got along very well but had some minor arguments.
3 ☐ I had more than one argument with at least one relative.

- 4 ☐ I had many arguments.
- 5 ☐ I was constantly in arguments.
31. Have you been able to talk about your feelings and problems with at least one of your relatives in the last 2 weeks?
- 1 ☐ I can always talk about my feelings with at least one relative. (49)
- 2 ☐ I usually can talk about my feelings.
- 3 ☐ About half the time I felt able to talk about my feelings.
- 4 ☐ I usually was not able to talk about my feelings.
- 5 ☐ I was never able to talk about my feelings.
32. Have you avoided contacts with your relatives these last two weeks?
- 1 ☐ I have contacted relatives regularly. (50)
- 2 ☐ I have contacted a relative at least once.
- 3 ☐ I have waited for my relatives to contact me.
- 4 ☐ I avoided my relatives, but they contacted me.
- 5 ☐ I have no contacts with any relatives.
33. Did you depend on your relatives for help, advice, money or friendship during the last 2 weeks?
- 1 ☐ I never need to depend on them. (51)
- 2 ☐ I usually did not need to depend on them.
- 3 ☐ About half the time I needed to depend on them.
- 4 ☐ Most of the time I depend on them.
- 5 ☐ I depend completely on them.
34. Have you wanted to do the opposite of what your relatives wanted in order to make them angry during the last 2 weeks?
- 1 ☐ I never wanted to oppose them. (52)
- 2 ☐ Once or twice I wanted to oppose them.
- 3 ☐ About half the time I wanted to oppose them.
- 4 ☐ Most of the time I wanted to oppose them.
- 5 ☐ I always opposed them.
35. Have you been worried about things happening to your relatives without good reason in the last 2 weeks?
- 1 ☐ I have not worried without reason. (53)

- 2 ☐ Once or twice I worried.
- 3 ☐ About half the time I worried.
- 4 ☐ Most of the time I worried.
- 5 ☐ I have worried the entire time.
- 8 ☐ Not applicable; my relatives are no longer living.

EVERYONE answer Questions 36 and 37, even if your relatives are not living.

36. During the last two weeks, have you been thinking that you have let any of your relatives down or have been unfair to them at any time?

- 1 ☐ I did not feel that I let them down at all. (54)
- 2 ☐ I usually did not feel that I let them down.
- 3 ☐ About half the time I felt that I let them down.
- 4 ☐ Most of the time I have felt that I let them down.
- 5 ☐ I always felt that I let them down.

37. During the last two weeks, have you been thinking that any of your relatives have let you down or have been unfair to you at any time?

- 1 ☐ I did not feel that they let me down at all. (55)
- 2 ☐ I felt that they usually did not let me down.
- 3 ☐ About half the time I felt they let me down.
- 4 ☐ I usually have felt that they let me down.
- 5 ☐ I am very bitter that they let me down.

Are you living with your spouse or have been living with a person of the opposite sex in a permanent relationship?

- 1 ☐ YES, Please answer questions 38-46. (56)
- 2 ☐ NO, Go to question 47.

38. Have you had open arguments with your partner in the last 2 weeks?

- 1 ☐ We had no arguments and we got along well. (57)
- 2 ☐ We usually got along well but had minor arguments.
- 3 ☐ We had more than one argument.
- 4 ☐ We had many arguments.
- 5 ☐ We were constantly in arguments.

39. Have you been able to talk about your feelings and problems with your partner during the last 2 weeks?
- 1 ☐ I could always talk freely about my feelings. (58)
 - 2 ☐ I usually could talk about my feelings.
 - 3 ☐ About half the time I felt able to talk about my feelings.
 - 4 ☐ I usually was not able to talk about my feelings.
 - 5 ☐ I was never able to talk about my feelings.
40. Have you been demanding to have your own way at home during the last 2 weeks?
- 1 ☐ I have not insisted on always having my own way. (59)
 - 2 ☐ I usually have not insisted on having my own way.
 - 3 ☐ About half the time I insisted on having my own way.
 - 4 ☐ I usually insisted on having my own way.
 - 5 ☐ I always insisted on having my own way.
41. Have you been bossed around by your partner these last 2 weeks?
- 1 ☐ Almost never. (60)
 - 2 ☐ Once in a while.
 - 3 ☐ About half the time.
 - 4 ☐ Most of the time.
 - 5 ☐ Always.
42. How much have you felt dependent on your partner these last 2 weeks?
- 1 ☐ I was independent. (61)
 - 2 ☐ I was usually independent.
 - 3 ☐ I was somewhat dependent.
 - 4 ☐ was usually dependent.
 - 5 ☐ I depended on my partner for everything.
43. How have you felt about your partner during the last 2 weeks?
- 1 ☐ I always felt affection. (62)
 - 2 ☐ I usually felt affection.

- 3 ☐ About half the time I felt dislike and half the time affection.
- 4 ☐ I usually felt dislike.
- 5 ☐ I always felt dislike.

CHILDREN

Have you had unmarried children, stepchildren, or foster children living at home during the last two weeks?

- 1 ☐ YES, Answer questions 47-50. (66)
- 2 ☐ NO, Go to question 51.

47. Have you been interested in what your children are doing - school, play or hobbies during the last 2 weeks?
- 1 ☐ I was always interested and actively involved. (67)
- 2 ☐ I usually was interested and involved.
- 3 ☐ About half the time interested and half the time not interested.
- 4 ☐ I usually was disinterested.
- 5 ☐ I was always disinterested.
48. Have you been able to talk and listen to your children during the last 2 weeks? Include only children over the age of 2.
- 1 ☐ I always was able to communicate with them. (68)
- 2 ☐ I usually was able to communicate with them.
- 3 ☐ About half the time I could communicate.
- 4 ☐ I usually was not able to communicate.
- 5 ☐ I was completely unable to communicate.
- 8 ☐ Not applicable; no children over the age of 2.
49. How have you been getting along with the children during the last 2 weeks?
- 1 ☐ I had no arguments and got along very well. (69)
- 2 ☐ I usually got along well but had minor arguments.
- 3 ☐ I had more than one argument.
- 4 ☐ I had many arguments.
- 5 ☐ I was constantly in arguments.
50. How have you felt toward your children these last 2 weeks?
- 1 ☐ I always felt affection. (70)
- 2 ☐ I mostly felt affection.
- 3 ☐ About half the time I felt affection.
- 4 ☐ Most of the time I did not feel affection.
- 5 ☐ I never felt affection toward them.

FAMILY UNIT

Have you ever been married, ever lived with a person of the opposite sex or ever had children? Please check.

- 1 ☐ YES, Please answer questions 51-53. (71)
- 2 ☐ NO, Go to question 54.

51. Have you worried about your partner or any of your children without any reason during the last 2 weeks, even if you are not living together now?

- 1 ☐ I never worried. (53)
- 2 ☐ Once or twice I worried.
- 3 ☐ About half the time I worried.
- 4 ☐ Most of the time I worried.
- 5 ☐ I always worried.
- 8 ☐ Not applicable; partner and children not living.

52. During the last 2 weeks have you been thinking that you have let down your partner or any of your children at any time?

- 1 ☐ I did not feel that I let them down at all. (73)
- 2 ☐ I usually did not feel that I let them down.
- 3 ☐ About half the time I felt that I let them down.
- 4 ☐ Most of the time I have felt that I let them down.
- 5 ☐ I let them down completely.

53. During the last 2 weeks, have you been thinking that your partner or nay of your children have let you down at any time?

- 1 ☐ I never felt that they let me down. (74)
- 2 ☐ I felt they usually did not let me down.
- 3 ☐ About half the time I felt they let me down.
- 4 ☐ I usually felt they let me down.
- 5 ☐ I feel bitter that they have let me down.

FINANCIAL - EVERYONE PLEASE ANSWER QUESTION 54.

54. Have you had enough money to take care of your own and your family's financial needs during the last 2 weeks?

- 1 ☐ I had enough money for needs. (75)
- 2 ☐ I usually had enough money with minor problems.
- 3 ☐ About half the time I did not have enough money but did not have to borrow money.
- 4 ☐ I usually did not have enough money and had to borrow from others.
- 5 ☐ I had great financial difficulty.